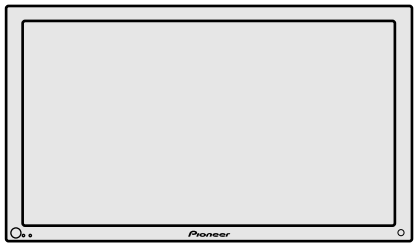
Pioneer sound.vision.soul

# Service Manual



PDP-505PE

ORDER NO.
**ARP3214**

## PLASMA DISPLAY

# PDP-505PE
# PRO-505PU

### THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

| Model | Type | Power Requirement | Remarks |
|---|---|---|---|
| PDP-505PE | WYVI | AC220 - 240V | |
| PDP-505PE | WYVIXK | AC220 - 240V | |
| PRO-505PU | KUC | AC120V | |

For details, refer to "Important symbols for good services" .

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T-ZZY AUG. 2004 printed in Japan

# SAFETY INFORMATION

**This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

**WARNING**
**This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.**

**Health & Safety Code Section 25249.6 - Proposition 65**

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

## SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

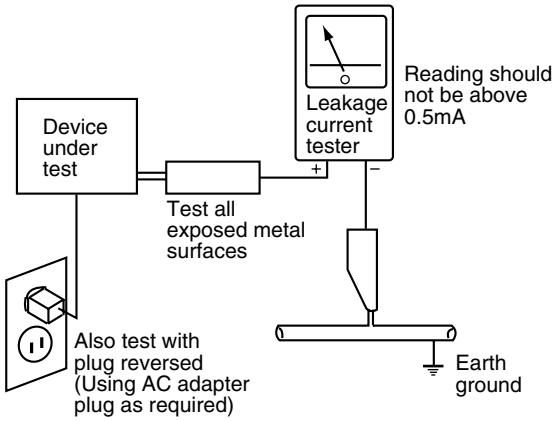
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - When the front case is removed, infrared ray is radiated and may disturb reception of the remote control unit.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

## Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ. Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

## Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.**

## PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## ■Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. AC Power Cord
2. AC Inlet with Filter
3. Power Switch (S1)
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

## ■High Voltage Generating Point

The places where voltage is 100V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

1. POWER SUPPLY Unit..... (223V)
2. 50 X DRIVE Assy ..... (–230V to 223V)
3. 50 Y DRIVE Assy ..... (353V)
4. 50 SCAN A Assy ..... (353V)
5. 50 SCAN B Assy ..... (353V)
6. X CONNECTOR AAssy ..... (–230V to 223V)
7. X CONNECTOR B Assy ..... (–230V to 223V)

Discharge the VSUS voltage, as shown below:

**[Method for discharging the VSUS voltage]**

1. Set DRF_SW on the DIGITAL VIDEO Assy to ON (Drive OFF status). *1, 2
2. Leave the switch at that position for about 20-30 seconds.
3. If the power is on, turn it off. Then return DRF_SW to the OFF position. *3

**Notes**

*1: You can also set the unit to "Drive OFF status" by sending the "DRF" RS232C command from the PC.
*2: DRF_SW can be switched whether the power is on or off.
*3: Power-down will occur if DRF_SW is set to OFF while the power is on. (See "7.1.6 Power on/off function for the large-signal system".)

: Part is Charged Section.
: Part is the High Voltage Generating Points other than the Charged Section.

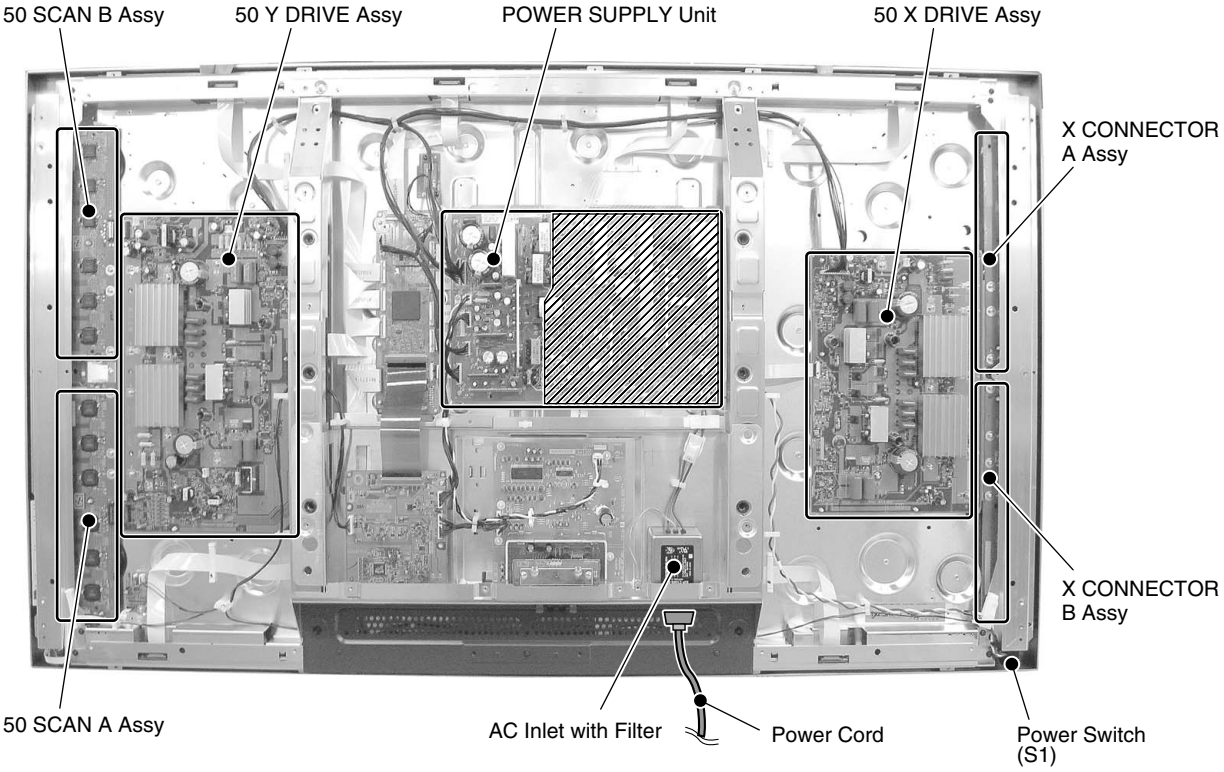



Fig.1 Charged Section and High Voltage Generating Point (Rear View)

## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

### 1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

### 2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### 3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

### 4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### 5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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# 1. SPECIFICATIONS

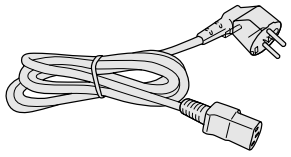
### 50" Plasma Display

| Item | Model: PDP-505PE |
|---|---|
| Number of Pixels | 1280 x 768 pixels |
| Audio Amplifier | 13 W + 13 W (1kHz, 10%, 8Ω) |
| Surround System | SRS/FOCUS/TruBass |
| Power Requirement | 220-240V AC,50/60Hz,352W<br>(0.4W Standby) |
| Dimensions | 1270(W) x 737 (H) x 93 (D) mm |
| Weight | 32.8 kg (72.3 lbs.) |

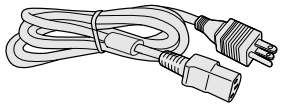
| Item | Model: PRO-505PU |
|---|---|
| Number of Pixels | 1280 x 768 pixels |
| Audio Amplifier | 13 W + 13 W (1kHz, 10%, 8Ω) |
| Surround System | SRS/FOCUS/TruBass |
| Power Requirement | 120V AC,60Hz,363W<br>(0.2W Standby) |
| Dimensions | 1270(W) x 737 (H) x 93 (D) mm<br>(44 1/8(W)x 25 11/16(H)x 3 7/8(D)inches) |
| Weight | 32.8 kg (72.3 lbs.) |

**• Accessories**

Power Cord

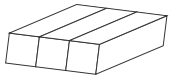


(PDP-505PE: ADG1214)



(PRO-505PU: ADG1215)

Speaker Cushion x1
(AEB1384)

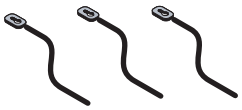


(Except PRO-505PU)

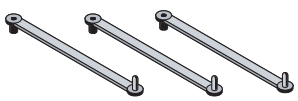
Wiping Cloth x1
(AED1208)

Binder Assy (AEC1908)

• Bead Bands x3



• Speed Clamp x3



Ferrite Core
(ATX1039)

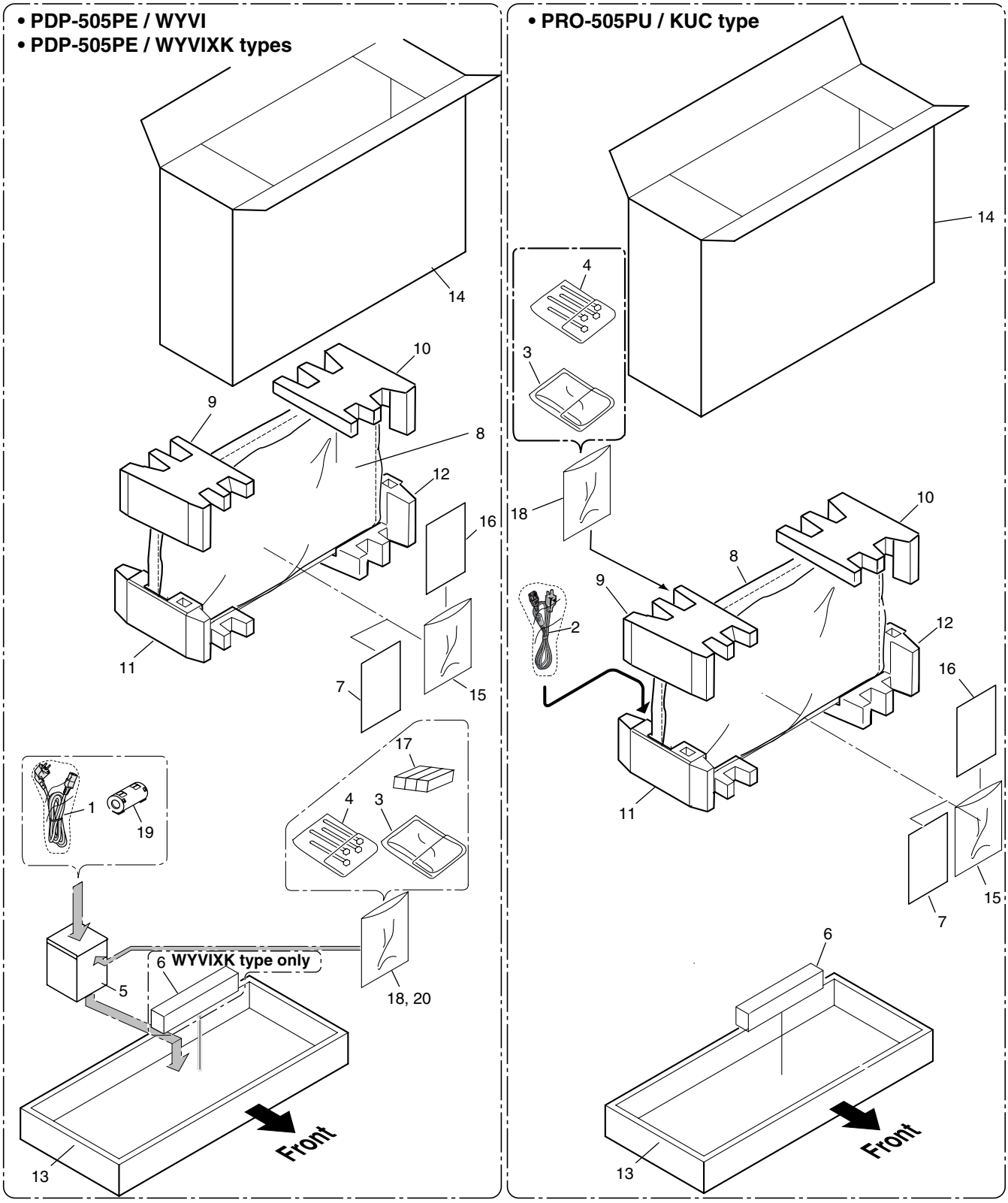
• Cable Tie

(PDP-505PE only)

# 2. EXPLODED VIEWS AND PARTS LIST

*NOTES:* ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*
● *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

## 2.1 PACKING



## PACKING Parts List

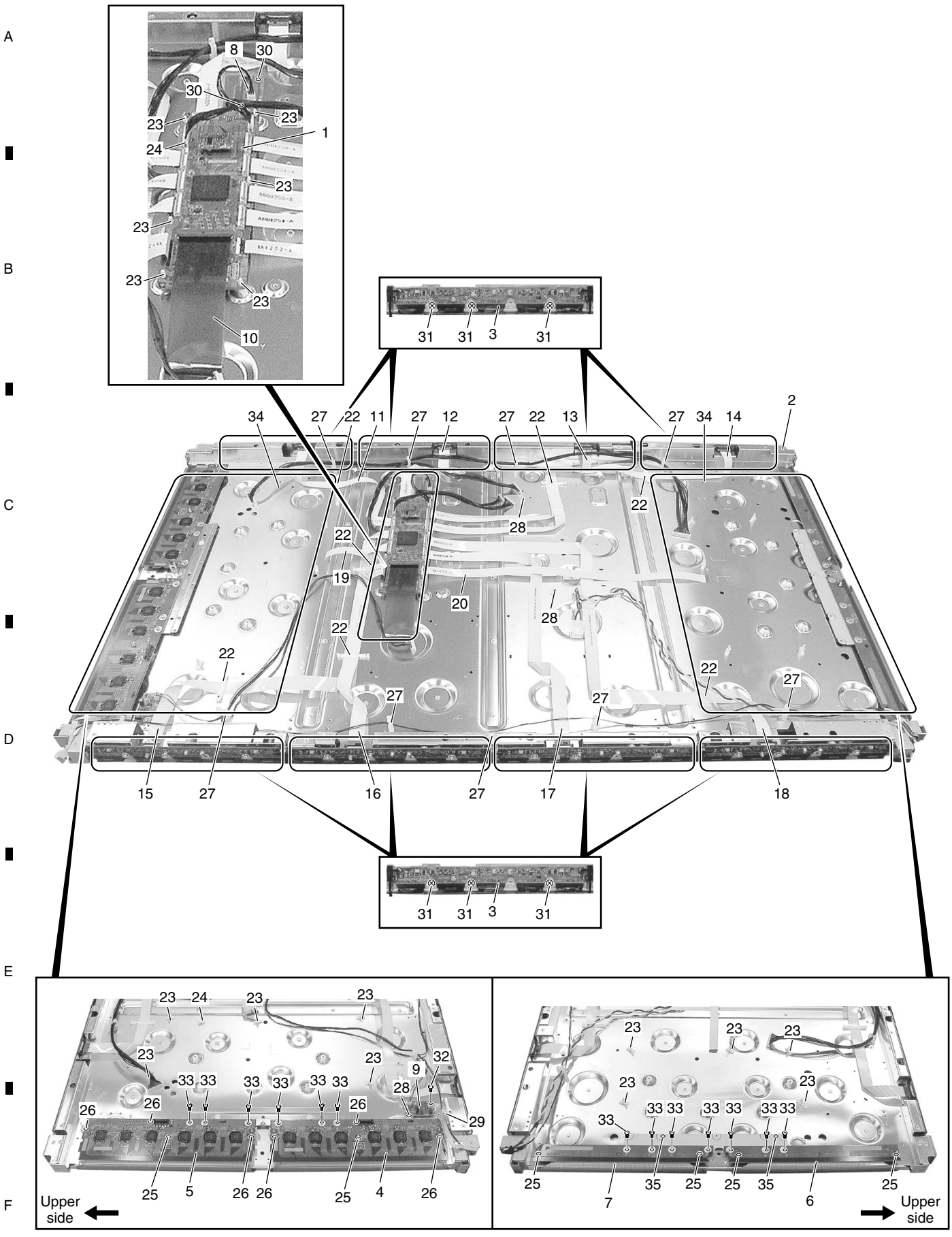
| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | Power Cord | See Contrast table (2) |
| ⚠ | 2 | Power Cord | See Contrast table (2) |
| | 3 | Wiping Cloth | AED1208 |
| | 4 | Binder Assy | AEC1908 |
| | 5 | Code Case | See Contrast table (2) |
| | 6 | Center Pad (50) | See Contrast table (2) |
| NSP | 7 | Warranty Card | See Contrast table (2) |
| | 8 | Mirror Mat | See Contrast table (2) |
| | 9 | Pad | See Contrast table (2) |
| | 10 | Pad | See Contrast table (2) |
| | 11 | Pad | See Contrast table (2) |
| | 12 | Pad | See Contrast table (2) |
| | 13 | Carton (50) | See Contrast table (2) |
| | 14 | Upper Carton | See Contrast table (2) |
| | 15 | Vinyl Bag | See Contrast table (2) |
| | 16 | Caution Card | ARM1232 |
| | 17 | Speaker Cushion | See Contrast table (2) |
| | 18 | Vinyl Bag S | See Contrast table (2) |
| | 19 | Ferrite Core | See Contrast table (2) |
| | 20 | Poly Bag | See Contrast table (2) |

## (2) CONTRAST TABLE

PDP-505PE/WYVIXK, PRO-505PU/KUC and PDP-505PE/WYVI are constructed the same except for the following :

| Mark | No. | Symbol and Description | PDP-505PE WYVI | PDP-505PE WYVIXK | PRO-505PU KUC |
|---|---|---|---|---|---|
| ⚠ | 1 | Power Cord | ADG1214 | ADG1214 | Not used |
| ⚠ | 2 | Power Cord | Not used | Not used | ADG1215 |
| | 5 | Code Case | AHC1041 | AHC1049 | Not used |
| | 6 | Center Pad (50) | Not used | AHA2335 | Not used |
| NSP | 7 | Warranty Card | ARY1114 | ARY1114 | ARY1134 |
| | 8 | Mirror Mat | AHG1284 | AHG1327 | AHG1284 |
| | 9 | Pad (50T-L) | AHA2366 | Not used | AHA2366 |
| | 9 | Pad (T-L) | Not used | AHA2381 | Not used |
| | 10 | Pad (50T-R) | AHA2367 | Not used | AHA2367 |
| | 10 | Pad (T-R) | Not used | AHA2382 | Not used |
| | 11 | Pad (50B-L) | AHA2368 | Not used | AHA2368 |
| | 11 | Pad (B-L) | Not used | AHA2383 | Not used |
| | 12 | Pad (50B-R) | AHA2369 | Not used | AHA2369 |
| | 12 | Pad (B-R) | Not used | AHA2384 | Not used |
| | 13 | Carton (50) | AHD3177 | AHD3191 | AHD3177 |
| | 14 | Upper Carton (505PE) | AHD3265 | Not used | Not used |
| | 14 | Upper Carton (50) | Not used | AHD3271 | Not used |
| | 14 | Upper Carton (50EL) | Not used | Not used | AHD3281 |
| | 15 | Vinyl Bag | AHG1340 | Not used | AHG1340 |
| | 17 | Speaker Cushion | AEB1384 | AEB1384 | Not used |
| | 18 | Vinyl Bag S | AHG1338 | Not used | AHG1338 |
| | 19 | Ferrite Core | ATX1039 | ATX1039 | Not used |
| | 20 | Poly Bag | Not used | AHG1326 | Not used |

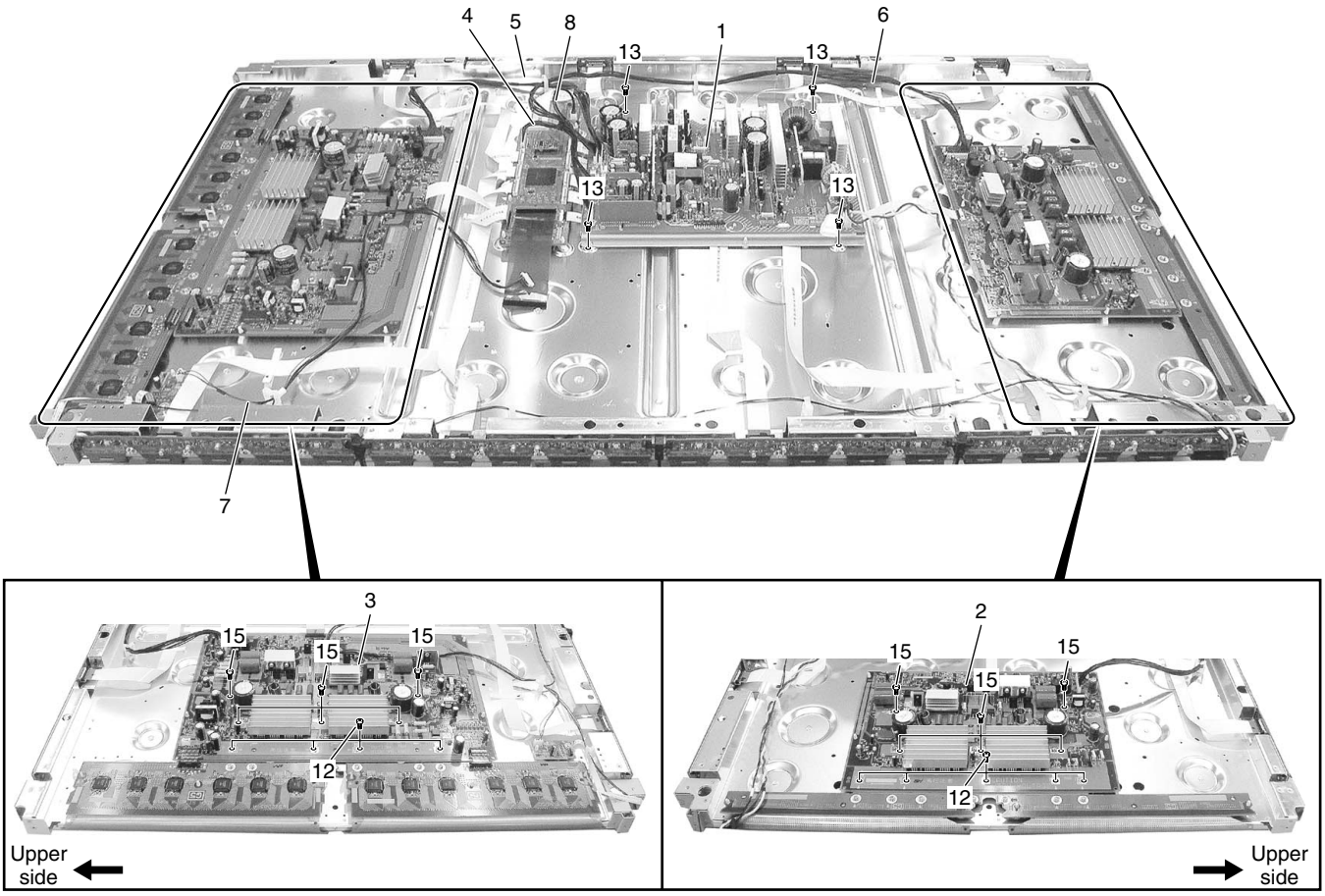
## 2.2 CHASSIS SECTION (1)

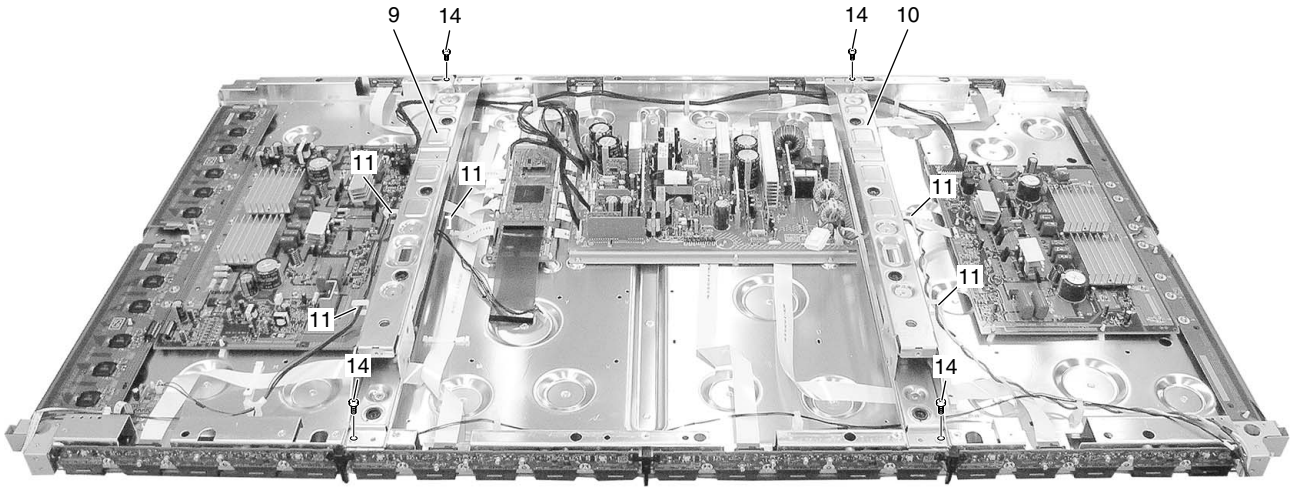


## CHASSIS SECTION (1) parts List

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | DIGITAL VIDEO Assy | AWV2074 |
| NSP | 2 | P. Chassis (505) Assy | AWU1092 |
| NSP | 3 | 50 ADDRESS Assy | AWZ6870 |
| NSP | 4 | 50 SCAN A Assy | AWZ6878 |
| NSP | 5 | 50 SCAN B Assy | AWZ6879 |
| NSP | 6 | X CONNECTOR A Assy | AWZ6880 |
| NSP | 7 | X CONNECTOR B Assy | AWZ6881 |
| | 8 | PANEL SENSOR Assy | AWZ6872 |
| | 9 | KEY CONTROL Assy | AWZ6844 |
| | 10 | FPC (114P) | ADY1088 |
| | 11 | Flexible Cable (J201) | ADD1248 |
| | 12 | Flexible Cable (J202) | ADD1249 |
| | 13 | Flexible Cable (J203) | ADD1250 |
| | 14 | Flexible Cable (J204) | ADD1251 |
| | 15 | Flexible Cable (J205) | ADD1252 |
| | 16 | Flexible Cable (J206) | ADD1253 |
| | 17 | Flexible Cable (J207) | ADD1254 |
| | 18 | Flexible Cable (J208) | ADD1255 |
| | 19 | Flexible Cable (J209) | ADD1270 |
| | 20 | Flexible Cable (J210) | ADD1271 |
| | 21 | ••••• | |
| | 22 | Flat Clamp | AEC1879 |
| | 23 | PCB Spacer | AEC1941 |
| | 24 | PCB Support | AEC1938 |
| | 25 | PCB Spacer | AEC1944 |
| | 26 | PCB Support | AEC1958 |
| | 27 | Wire Saddle | AEC1745 |
| | 28 | PCB Spacer | AEC1947 |
| | 29 | Wire Clip | AEC1948 |
| | 30 | Nylon Rivet | AEC1671 |
| | 31 | Screw | VBB30P080FNI |
| | 32 | Screw | ABZ30P060FTC |
| | 33 | Screw | PMB30P060FNI |
| | 34 | Rear corner label | AAX3081 |
| | 35 | Card Spacer | AEC2013 |

## 2.3 CHASSIS SECTION (2)

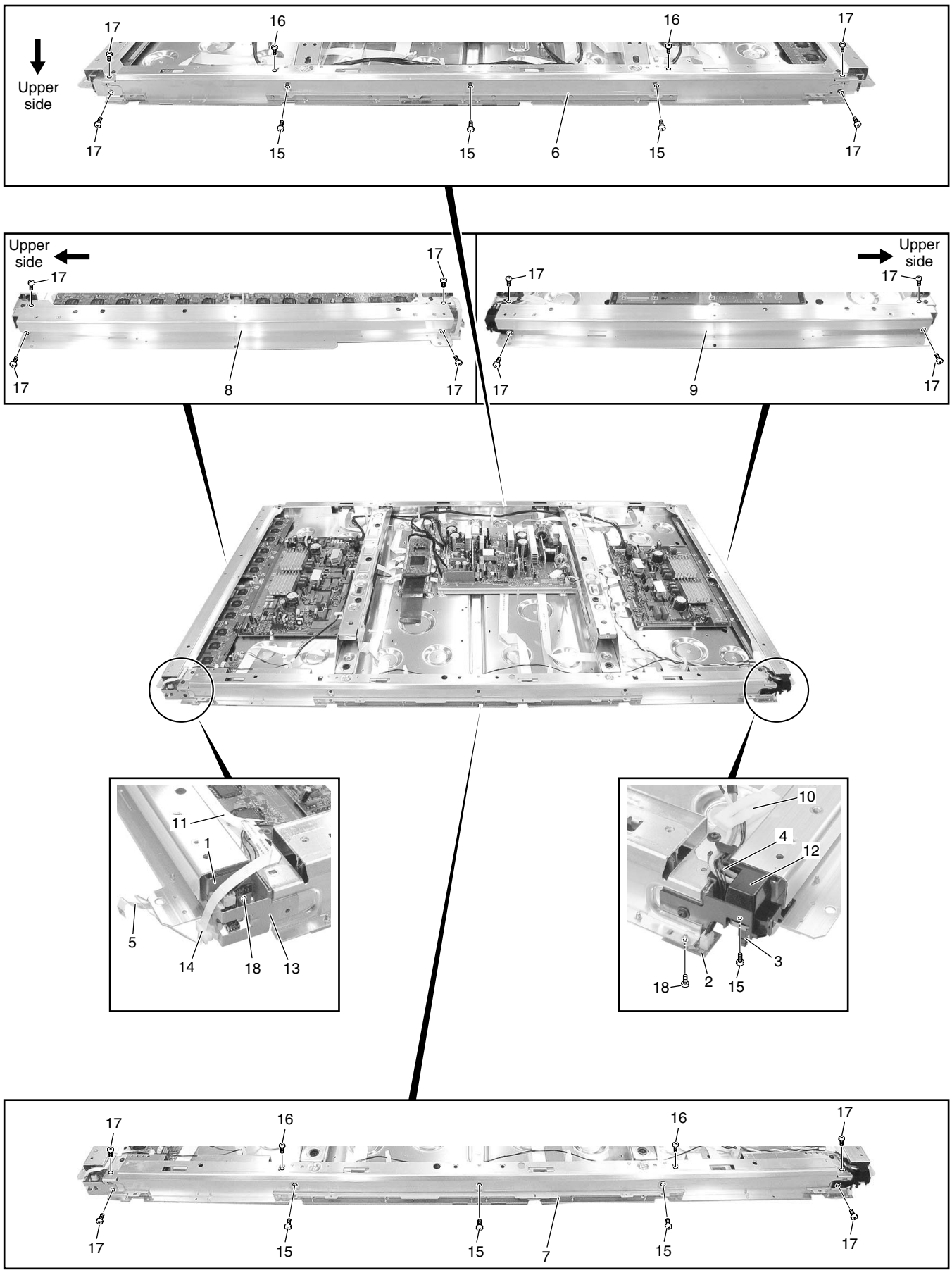


## CHASSIS SECTION (2) parts List

| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | POWER SUPPLY Unit | AXY1085 |
| | 2 | 50 X DRIVE Assy | AWZ6877 |
| | 3 | 50 Y DRIVE Assy | AWV2082 |
| | 4 | Wire A (J101) | ADX2945 |
| | 5 | 11P Housing Wire (J102) | ADX2950 |
| | 6 | 12P Housing Wire (J103) | ADX2951 |
| | 7 | 9P Housing Wire (J106) | ADX2949 |
| | 8 | 3P Housing Wire (J109) | ADX2948 |
| | 9 | SUB Frame L Assy (50P) | ANG2638 |
| | 10 | SUB Frame R Assy (50P) | ANG2561 |
| | 11 | Wire Saddle | AEC1745 |
| | 12 | Screw | PMB30P060FNI |
| | 13 | Screw | ABZ30P060FTC |
| | 14 | Screw | AMZ30P080FTC |
| | 15 | Screw | VBB30P080FNI |

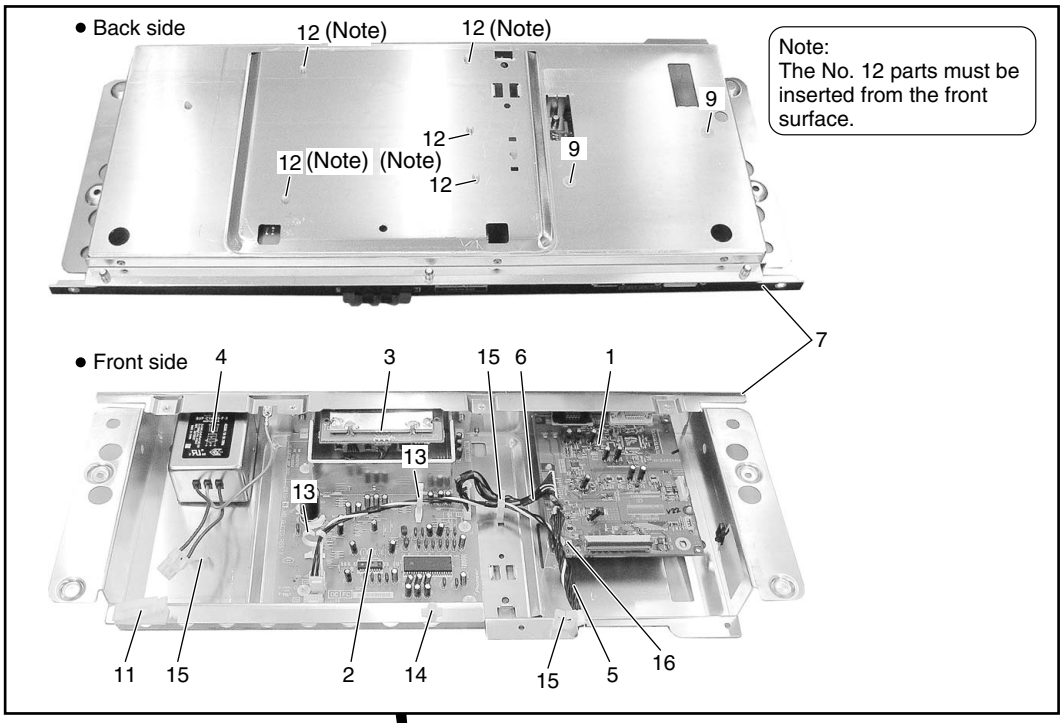
## 2.4 FRAME SECTION

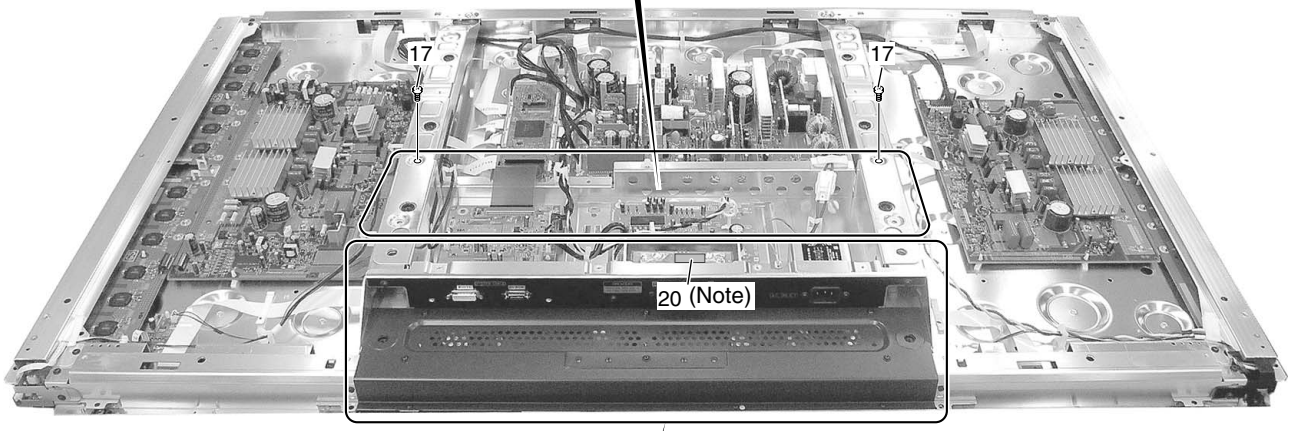


## FRAME SECTION parts List

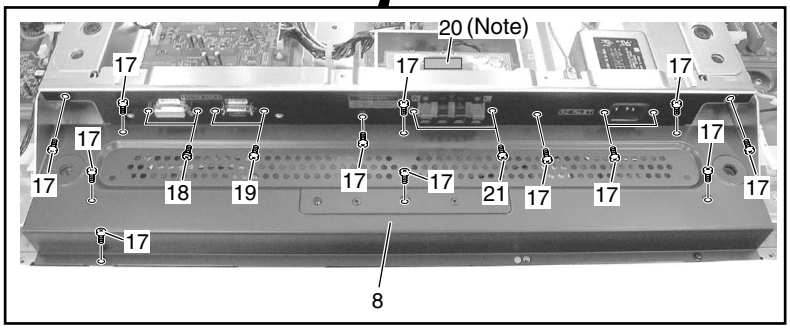
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | PANEL IR Assy | AWZ6845 |
| | 2 | PANEL LED Assy | AWZ6842 |
| ⚠ | 3 | Power Switch (S1) | ASG1092 |
| | 4 | Housing Wire (50)(J110) | ADX2964 |
| | 5 | Flexible Cable (J211) | ADD1225 |
| | 6 | Front Chassis HU Assy (50) | ANA1792 |
| | 7 | Front Chassis HD Assy (50) | ANA1793 |
| | 8 | Front Chassis VL (50) | ANA1794 |
| | 9 | Front Chassis VR (50) | ANA1795 |
| | 10 | Clamp | AEC1884 |
| | 11 | Flat Clamp | AEC1879 |
| | 12 | Switch Holder | AMR3402 |
| | 13 | IR Holder | ANG2665 |
| | 14 | Wire Clip | AEC1948 |
| | 15 | Screw | BPZ30P080FTB |
| | 16 | Screw | AMZ30P080FTC |
| | 17 | Screw | AMZ30P060FTB |
| | 18 | Screw | ABZ30P060FTC |

## 2.5 MULTI BASE SECTION



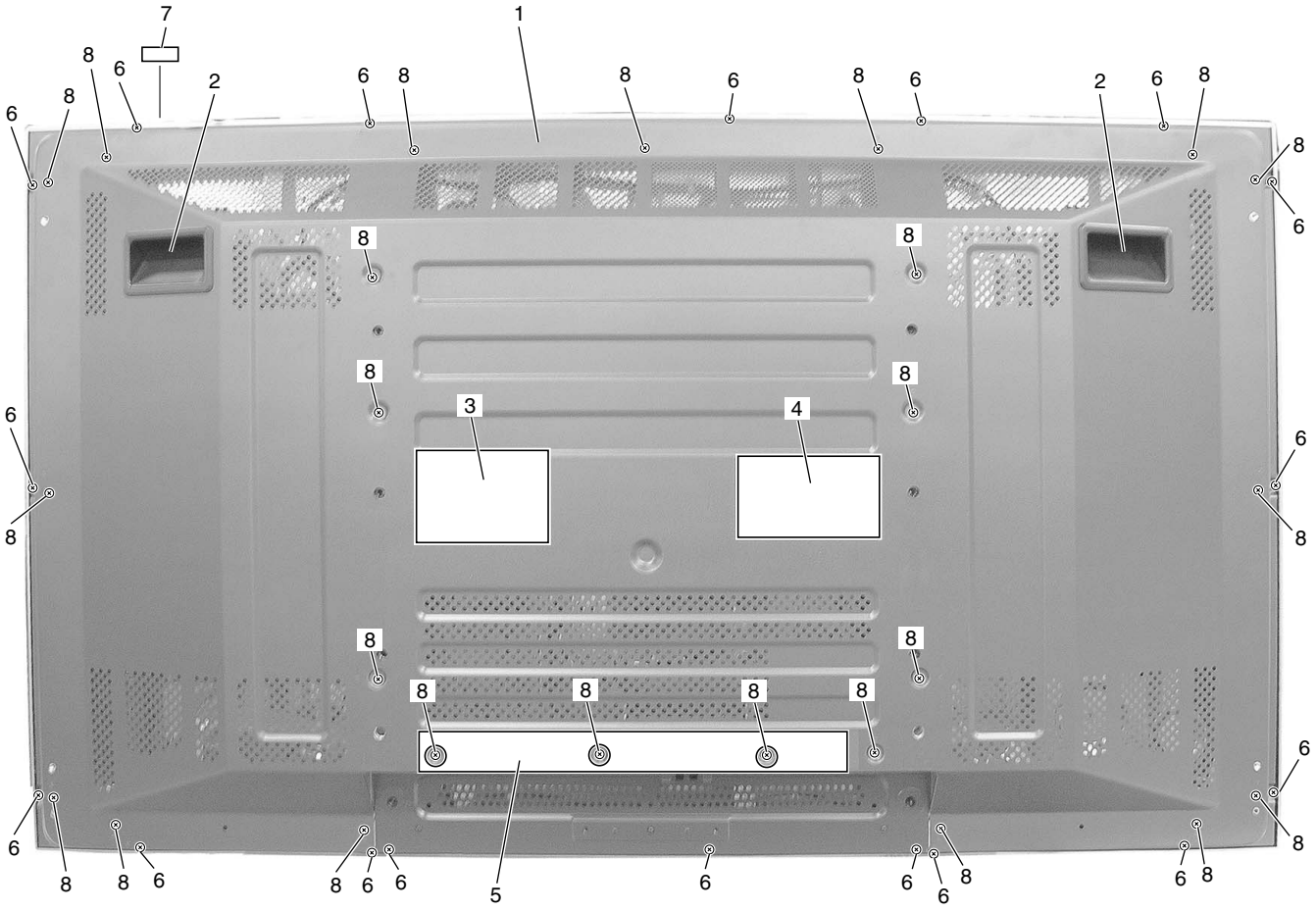

Note: When servicing, be sure to glue on the Gasket (AU) and make sure that they won't peel off.



## MULTI BASE SECTION parts List

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | PANEL IF Assy | AWZ6841 |
| | 2 | HD AUDIO AMP Assy | AWZ6863 |
| | 3 | HD SP TERMINAL Assy | AWZ6864 |
| ⚠ | 4 | AC Inlet (CN1) | AKP1263 |
| | 5 | 3P/8P Housing Wire (J104) | ADX2922 |
| | 6 | 13P Housing Wire (J105) | ADX2947 |
| | 7 | Multi Base (P) Assy | ANA1786 |
| | 8 | Under Cover Assy | ANG2589 |
| | 9 | Locking Card Spacer V0 | AEC2005 |
| | 10 | ••••• | |
| | 11 | Clamp | AEC1884 |
| | 12 | PCB Spacer | AEC1941 |
| | 13 | HL 18 | AEC1980 |
| | 14 | SB Spacer | AEC2002 |
| NSP | 15 | Wire Saddle | AEC1745 |
| | 16 | Screw | PMB30P060FNI |
| | 17 | Screw | AMZ30P060FTB |
| | 18 | Hexagon Headed Screw | BBA1051 |
| | 19 | Screw | PMZ26P060FTB |
| | 20 | Gasket (AU) | ANK1745 |
| | 21 | Screw | BPZ30P080FTB |

# 2.6 REAR SECTION



## REAR SECTION parts List

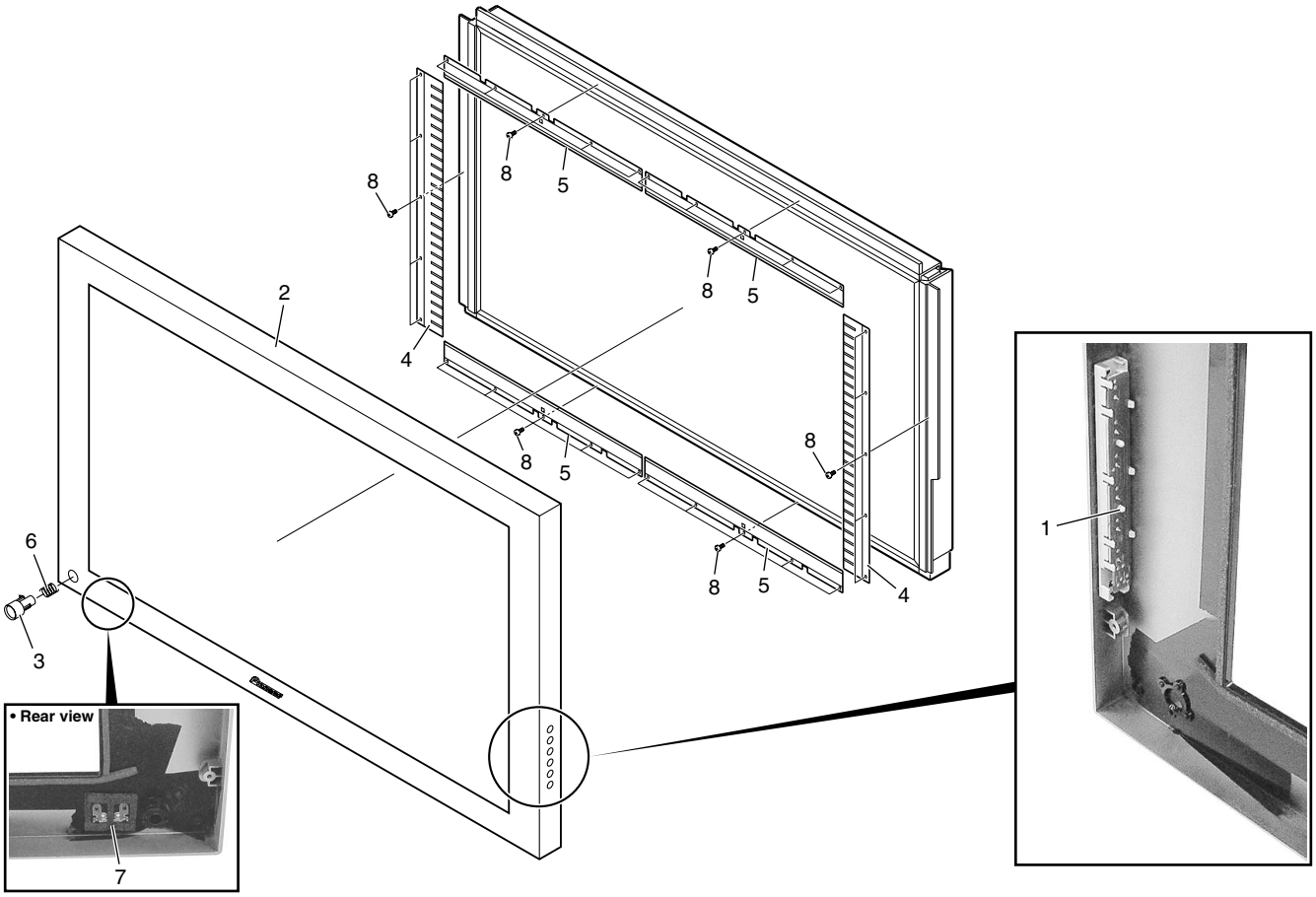
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Rear Case (50P) | ANE1626 |
| | 2 | Inner Grip Assy | AMR3434 |
| NSP | 3 | Name Label | See Contrast table (2) |
| | 4 | Volt caution Label | See Contrast table (2) |
| | 5 | Terminal Label | See Contrast table (2) |
| | 6 | Screw | ABZ30P100FTB |
| | 7 | Serial Sheet | AAX3143 |
| | 8 | Screw | AMZ30P060FTB |

## (2) CONTRAST TABLE

PDP-505PE/WYVIXK, PRO-505PU/KUC and PDP-505PE/WYVI are constructed the same except for the following :

| Mark | No. | Symbol and Description | PDP-505PE WYVI | PDP-505PE WYVIXK | PRO-505PU KUC |
|---|---|---|---|---|---|
| NSP | 3 | Name Label | AAL2568 | AAL2580 | AAL2570 |
| | 4 | Volt Caution Label | AAX3117 | AAX3005 | AAX3117 |
| | 5 | Terminal Label | AAX2998 | AAX3006 | AAX2997 |

# 2.7 FRONT SECTION




## FRONT SECTION parts List

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | PANEL KEY Assy | AWZ6843 |
| | 2 | Front Case Assy | See Contrast table (2) |
| | 3 | Power Button | AAD4127 |
| NSP | 4 | Panel Holder V (50) | ANG2663 |
| | 5 | Panel Holder H Assy 50 | See Contrast table (2) |
| | 6 | Coil Spring | ABH1114 |
| | 7 | Blind Cushion | AEB1383 |
| | 8 | Screw | ABZ30P060FTC |

## (2) CONTRAST TABLE

PDP-505PE/WYVIXK, PRO-505PU/KUC and PDP-505PE/WYVI are constructed the same except for the following :

| Mark | No. | Symbol and Description | PDP-505PE WYVI | PDP-505PE WYVIXK | PRO-505PU KUC |
|---|---|---|---|---|---|
| | 2 | Front Case Assy (50PE) | AMB2834 | AMB2834 | Not used |
| | 2 | Front Case Assy (50EL) | Not used | Not used | AMB2836 |
| | 5 | Panel Holder H Assy 50 | ANG2678 | Not used | ANG2678 |
| | 5 | Panel Holder H | Not used | ANG2662 | Not used |
| | 5 | Gasket | Not used | ANK1740 | Not used |

## 2.8 PANEL CHASSIS (50) Assy (AWU1092)

### PANEL CHASSIS (50) Assy (AWU1092) parts List

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | | 1..50 ADDRESS Assy | AWV2080 |
| NSP | | 2..50 ADDRESS Assy | AWZ6870 |
| NSP | | 1..50 SCAN Assy | AWV2083 |
| NSP | | 2..50 SCAN A Assy | AWZ6878 |
| NSP | | 2..50 SCAN B Assy | AWZ6879 |
| NSP | | 2..X CONNECTOR A Assy | AWZ6880 |
| NSP | | 2..X CONNECTOR B Assy | AWZ6881 |
| NSP | | P. Panel (50LC) Assy | AWU1103 |
| NSP | | Adress Module (IC1-IC40) | AXF1129 |
| NSP | | FPC (50XGA-X) | ADY1084 |
| NSP | | FPC (50XGA-Y) | ADY1085 |
| NSP | | Chassis Assy (505) | ANA1803 |
| | | PCB Spacer | AEC1944 |
| | | PCB Support | AEC1958 |
| | | Edge Card Spacer | AEC1998 |
| | | Rivet (Plastic) | AMR1066 |
| | | FC Spacer | AMR3370 |
| NSP | | Adhesive | ZBA-KE3424S |
| NSP | | Lotion | ZLX-AP7 |
| NSP | | Tape | ZTA-8101-12 |
| NSP | | Double Faced Tape | ZTB-5015-18 |
| NSP | | Silicone Rubber | ZTC-EM7KB0R85T-15W |
| NSP | | Tape | ZTC-POLYCA-20 |
| NSP | | Tape | ZTC-900UL-15 |
| NSP | | Silicone Rubber | ZTX-HC20-15 |
| NSP | | Silicone Rubber | ZTX-HC50-15 |
| NSP | | Wiping Cloth | ZTX-MX100-13 |
| NSP | | Film | ZTX-2102Y35-2R5 |
| NSP | | Film | ZTX-2102Y45-5 |

## 2.9 PDP SERVICE Assy 505P (AWU1097)

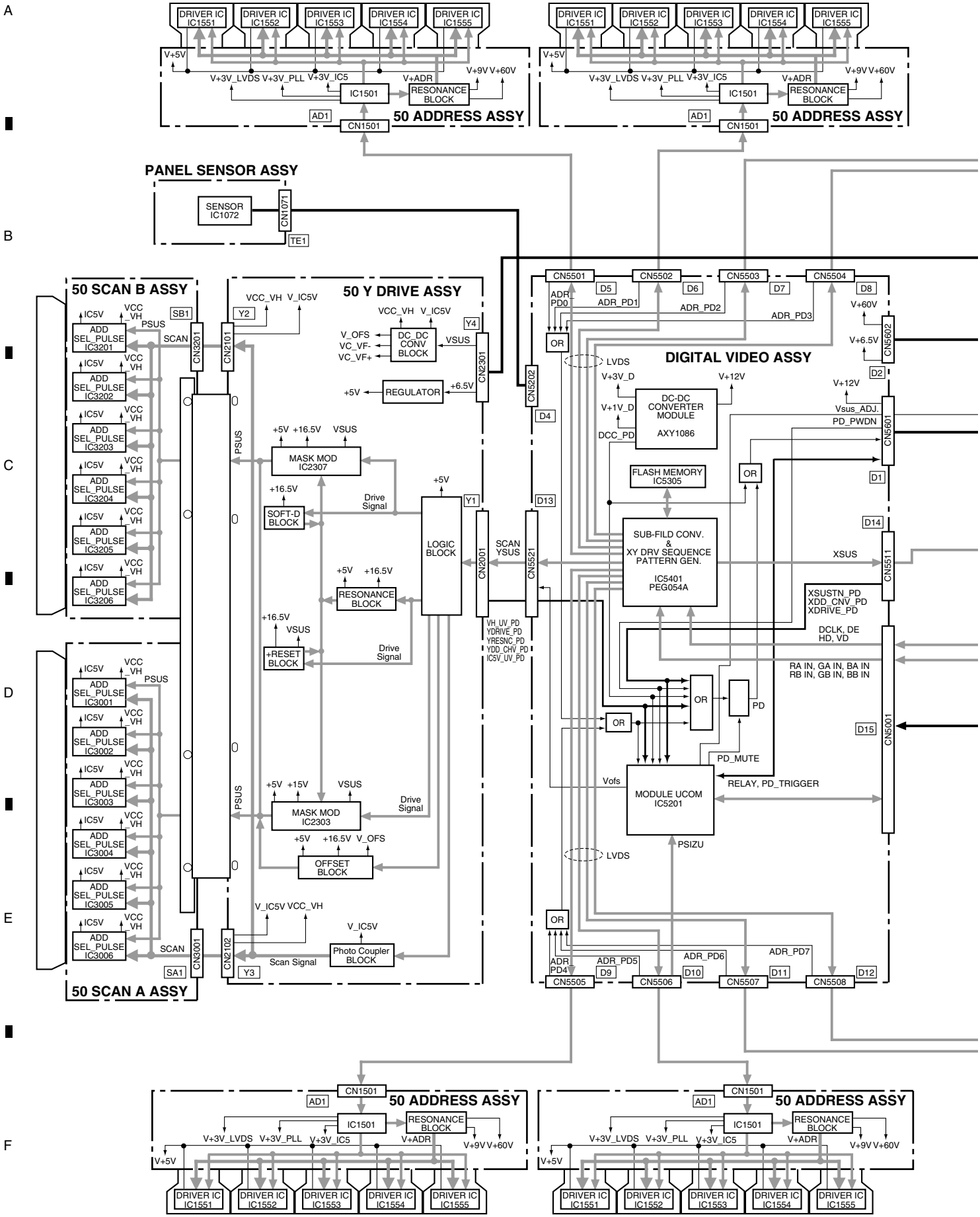
### PDP SERVICE Assy 505P (AWU1097) parts List

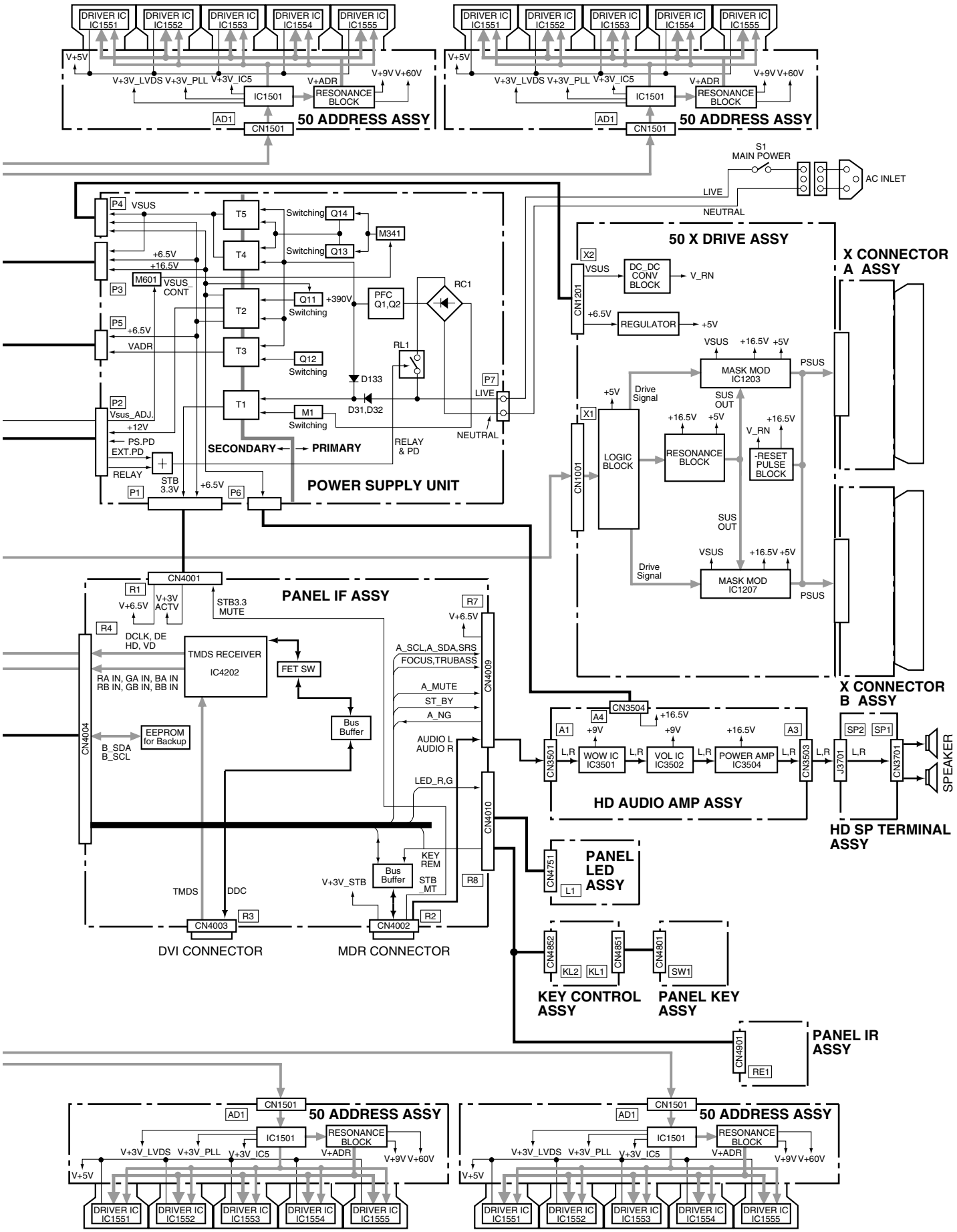
| MarkNo. | Description | Part No. |
|---|---|---|
| NSP | 1..P.Chassis (505) Assy | AWU1092 |
| | 1..Front Chassis HU Assy (50) | ANA1792 |
| | 1..Front Chassis HD Assy (50) | ANA1793 |
| | 1..Front Chassis VL (50) | ANA1794 |
| | 1..Front Chassis VR (50) | ANA1795 |
| | 1..Sub Frame L Assy (50P) | ANG2638 |
| | 1..Sub Frame R Assy (50P) | ANG2561 |
| | 1..Wire Saddle | AEC1745 |
| | 1..PCB Support | AEC1938 |
| | 1..PCB Spacer | AEC1941 |
| | 1..PCB Spacer | AEC1947 |
| | 1..Wire Clip | AEC1948 |
| | 1..Card Spacer | AEC2013 |
| | 1..Caution Label | AAX3031 |
| | 1..Drive Voltage Label | ARW1097 |
| | 1..Screw | ABZ30P100FTB |
| | 1..Screw | AMZ30P060FTB |
| | 1..Screw | AMZ30P080FTC |
| | 1..Screw | VBB30P080FNI |
| | 1..Screw | BPZ30P080FTB |
| NSP | 1..Front Case Assy (50SVC) | AMB2849 |
| | 2..Panel Cushion H (50) | AED1257 |
| | 2..Panel Cushion V (50) | AED1258 |
| NSP | 2..Front Case (50P) | AMB2823 |
| | 1..Rear Case (50P) | ANE1614 |
| NSP | 1..Vinyl Pouch | AHG-195 |
| | 1..Pad (50T-L) | AHA2366 |
| | 1..Pad (50T-R) | AHA2367 |
| | 1..Pad (50B-L) | AHA2368 |
| | 1..Pad (50B-R) | AHA2369 |
| | 1..Carton(50) | AHD3177 |
| | 1..Upper Carton (505SVC) | AHD3290 |
| | 1..Protect Sheet | AHG1331 |
| | 1..Rear corner label(15) | AAX3081 |

# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

## 3.1 BLOCK DIAGRAM

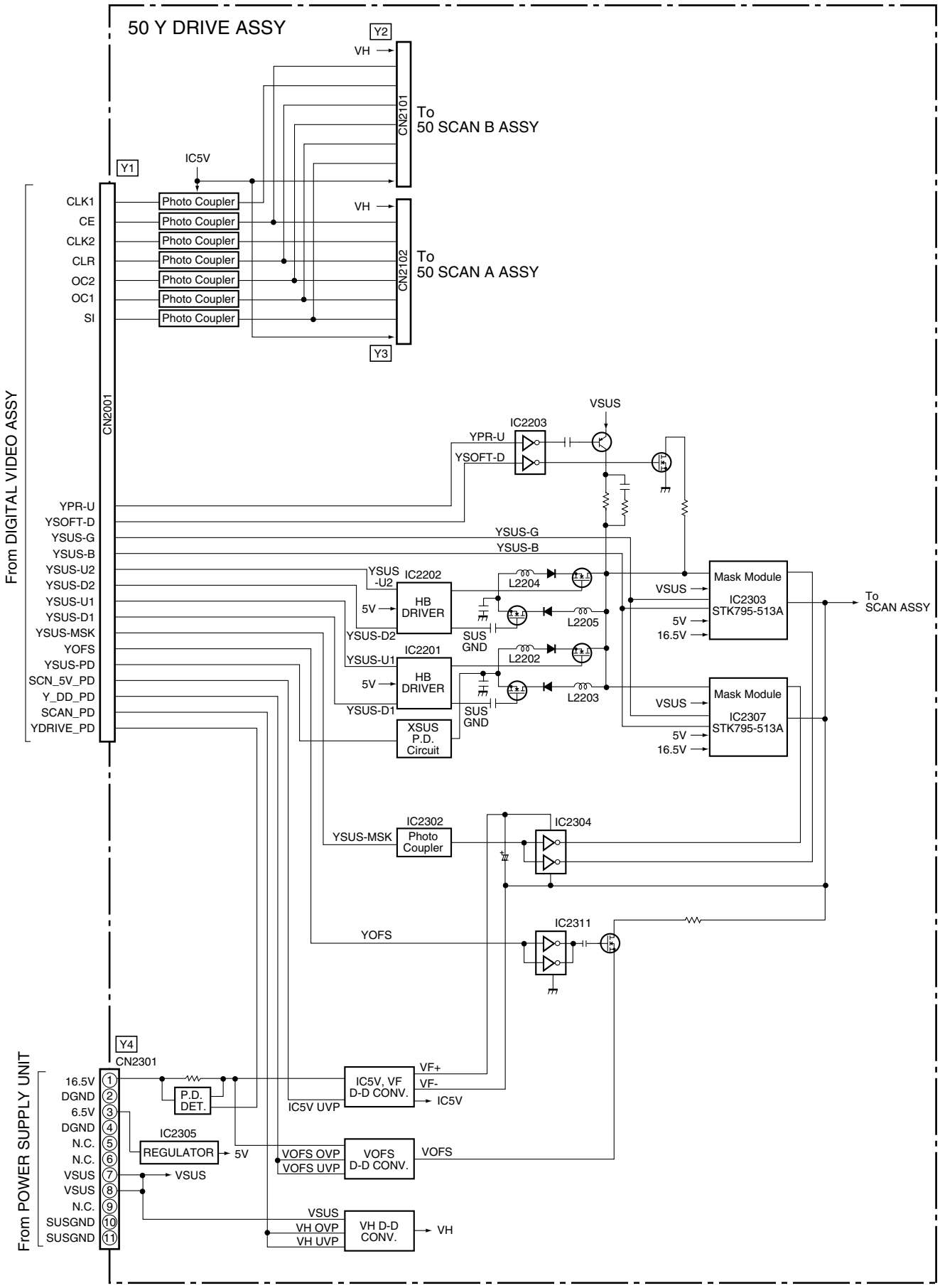
### 3.1.1 OVERALL BLOCK DIAGRAM




DRIVER IC IC1551
DRIVER IC IC1552
DRIVER IC IC1553
DRIVER IC IC1554
DRIVER IC IC1555
V+5V
V+3V_LVDS V+3V_PLL V+3V_IC5
V+ADR
V+9V V+60V
IC1501
RESONANCE BLOCK
AD1
CN1501
50 ADDRESS ASSY
S1
MAIN POWER
AC INLET
LIVE
NEUTRAL
P4 VSUS
T5
T4
T2
T3
T1
Switching Q14
Switching Q13
Switching Q11
Switching Q12
Switching M1
M341
+6.5V
+16.5V
M601 VSUS_CONT
P3
P5 +6.5V
VADR
P2 Vsus_ADJ.
+12V
PS.PD
EXT.PD
RELAY
STB 3.3V
P1
P6
+390V
PFC Q1,Q2
RC1
RL1
D133
D31,D32
P7 LIVE
NEUTRAL
SECONDARY
PRIMARY
RELAY & PD
POWER SUPPLY UNIT
50 X DRIVE ASSY
X2
VSUS
DC_DC CONV BLOCK
V_RN
CN1201
+6.5V
REGULATOR
+5V
X CONNECTOR A ASSY
VSUS +16.5V +5V
MASK MOD IC1203
PSUS
+5V
Drive Signal
SUS OUT
X1
CN1001
LOGIC BLOCK
+16.5V +5V
RESONANCE BLOCK
-RESET PULSE BLOCK
+16.5V
V_RN
SUS OUT
VSUS +16.5V +5V
Drive Signal
MASK MOD IC1207
PSUS
X CONNECTOR B ASSY
CN4001
PANEL IF ASSY
R1
V+6.5V
V+3V ACTV
STB3.3 MUTE
R4
DCLK, DE
HD, VD
TMDS RECEIVER IC4202
FET SW
RA IN, GA IN, BA IN
RB IN, GB IN, BB IN
CN4004
EEPROM for Backup
B_SDA
B_SCL
Bus Buffer
R7
V+6.5V
A_SCL,A_SDA,SRS
FOCUS,TRUBASS
A_MUTE
ST_BY
A_NG
AUDIO L
AUDIO R
CN4009
LED_R,G
CN4010
KEY REM
STB_MT
Bus Buffer
V+3V_STB
R8
TMDS
DDC
R3
R2
CN4003
CN4002
DVI CONNECTOR
MDR CONNECTOR
CN3504
A4
+16.5V
A1
+9V
L,R
WOW IC IC3501
VOL IC IC3502
POWER AMP IC3504
A3
CN3501
CN3503
J3701
SP2
SP1
CN3701
SPEAKER
HD AUDIO AMP ASSY
HD SP TERMINAL ASSY
CN4751
L1
PANEL LED ASSY
CN4852
CN4851
CN4801
KL2
KL1
SW1
KEY CONTROL ASSY
PANEL KEY ASSY
CN4901
RE1
PANEL IR ASSY

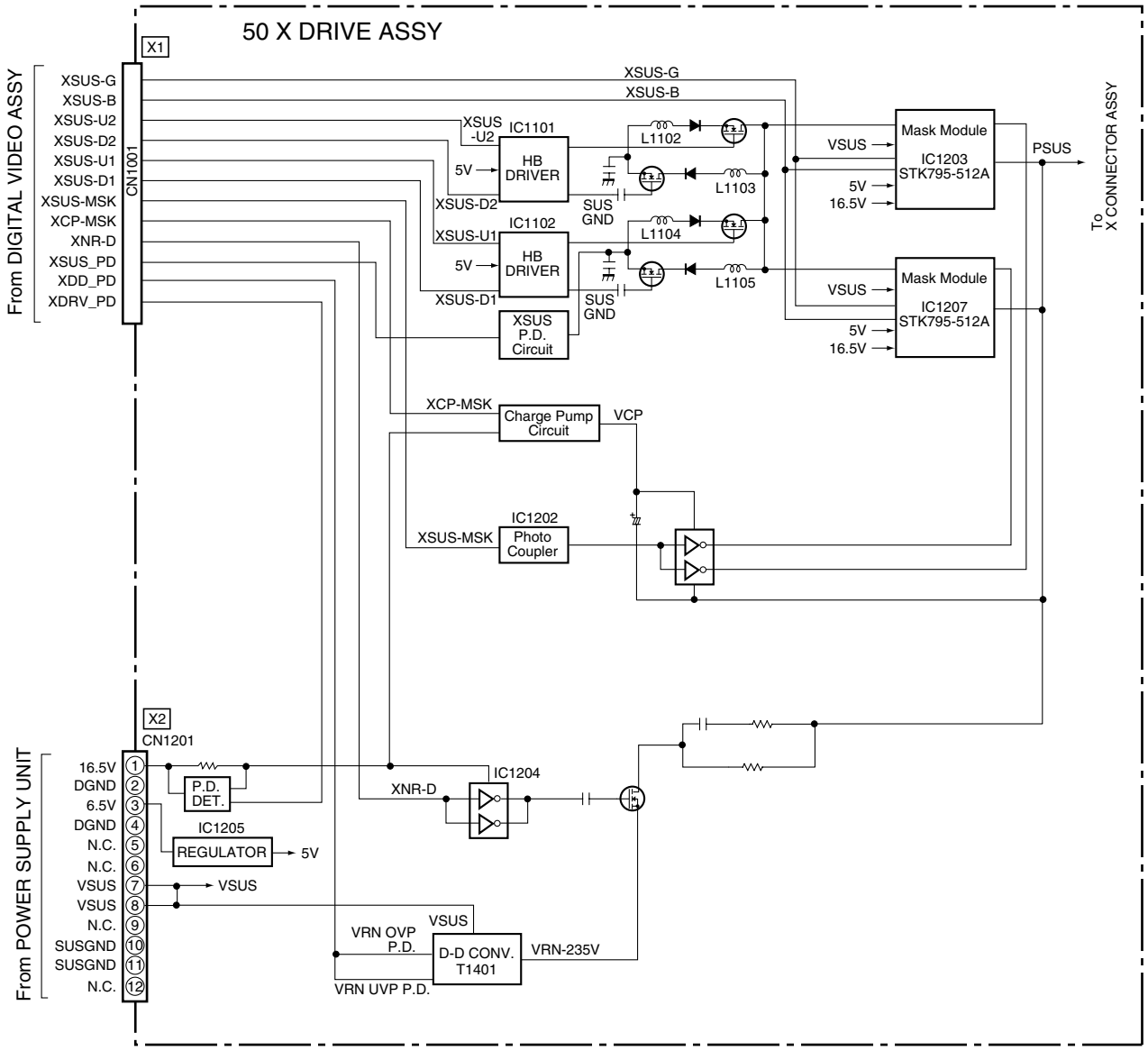
## 3.1.2 50 Y DRIVE ASSY

### • Block Diagram



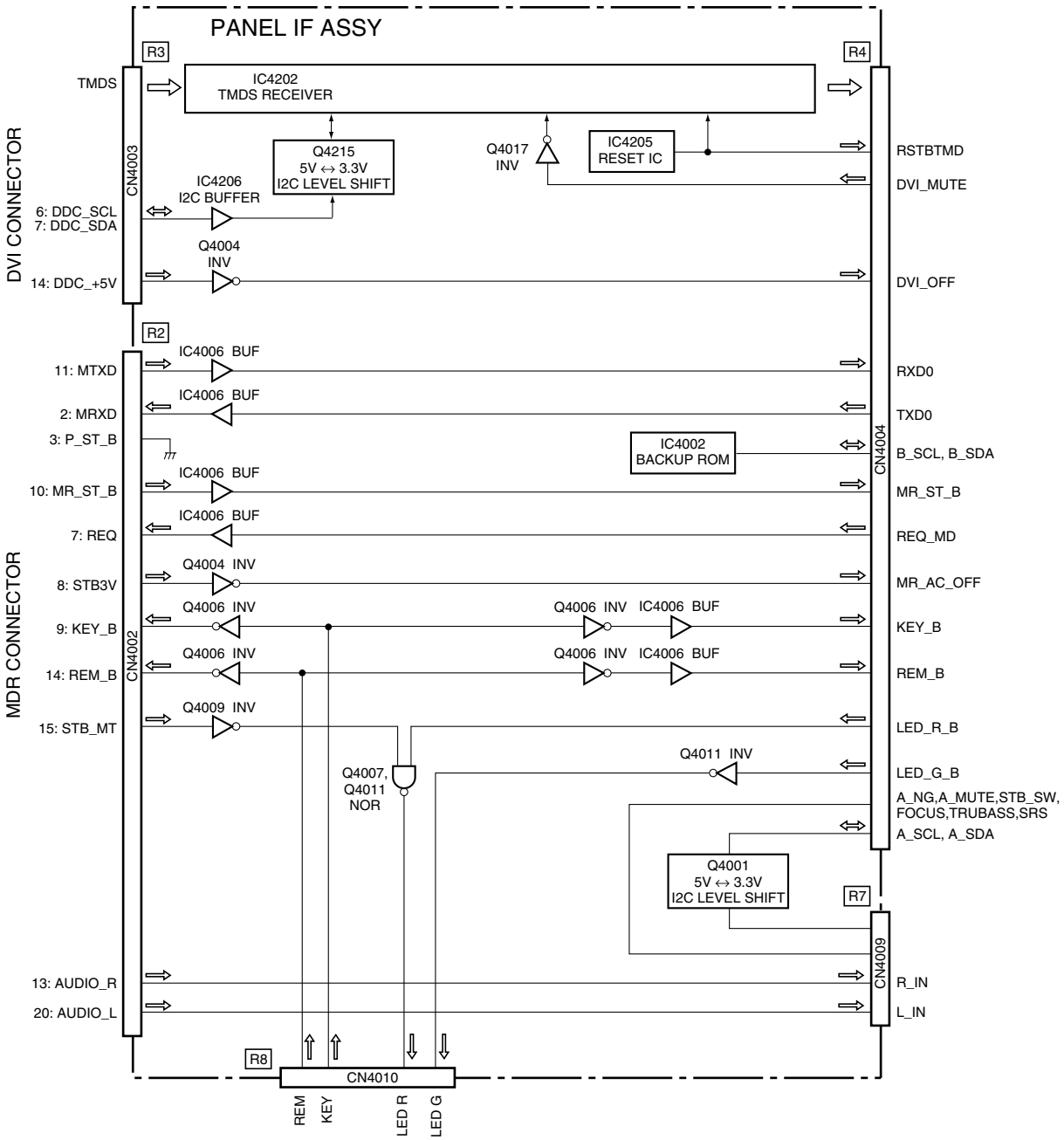
## 3.1.3 50 X DRIVE ASSY

### • Block Diagram



## 3.1.4 PANEL IF ASSY

### • Block Diagram



## • Voltages

### CN4001 (R1) < ⇔ POWER SUPPLY UNIT >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | 6.5V | I | +6.5V power supply | +6.8VDC |
| 2 | 6.5V | I | +6.5V power supply | +6.8VDC |
| 3 | Vcc_GND | – | GND | |
| 4 | Vcc_GND | – | GND | |
| 5 | STB3.3V | I | Power supply +3.3V input of module UCOM at panel side | +3.3VDC |
| 6 | STB_GND | – | GND | |
| 7 | STB3.3MUTE | O | Standby control (+3.3V mute) | +3.3 VDC |
| 8 | AC_DET | I | Primary power supply (AC) state input at panel side | +3.0VDC |

### CN4002 (R2) < ⇔ MEDIA RECEIVER >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | MR_ST_B | I | Connection state detecting signal with MR | 0VDC |
| 2 | MRXD | O | UART communication transmission data with the main UCOM (external PC) at MR side | 0-3.3V amplitude square wave |
| 3 | P_ST_B | O | Connection state output for the MR | 0VDC |
| 4 | ACT3V | O | Power supply +3.3V output of module UCOM at panel side | +3.3VDC |
| 5 | AC_OFF | O | Primary power supply (AC) state output at panel side | 0VDC |
| 6 | GND | – | GND | |
| 7 | REQ | O | Communication request to the main UCOM (external PC) at the MR | 0-3.3V amplitude square wave |
| 8 | STB3V | I | Standby power supply (+3.3V) input from the MR | +3.3VDC |
| 9 | KEY_B | O | Function key code signal output at panel side | 0-3.3V amplitude square wave (at key operation) |
| 10 | MR_ST_B' | I | Connection state detecting signal with the MR | 0VDC |
| 11 | MTXD | I | UART communication receive data with the main UCOM (external PC) at the MR side | 0-3.3V amplitude square wave |
| 12 | GND | – | GND | |
| 13 | AUDIO_R | I | R ch audio signal input | Audio R signal |
| 14 | REM_B | O | Remote control code signal output | 0-3.3V amplitude square wave (at remocon code transmission) |
| 15 | STB_MT | I | Standby control input | 0VDC |
| 16 | GND | – | GND | |
| 17 | NC | – | Not connected | – |
| 18 | FIELD | I | FIELD control signal | 0VDC |
| 19 | GND | – | GND | |
| 20 | AUDIO_L | I | L ch audio signal input | Audio L signal |

### CN4003 (R3) < ⇔ MEDIA RECEIVER >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | RX2- | I | DVI signal | DVI differential signal (-) |
| 2 | RX2+ | I | DVI signal | DVI differential signal (+) |
| 3 | GND | – | GND | |
| 4 | N.C | – | Not connected | – |
| 5 | N.C | – | Not connected | – |
| 6 | DDC_SCL | I | I2C signal for DDC | 0-5V amplitude square wave |
| 7 | DDC_SDA | I | I2C signal for DDC | 0-5V amplitude square wave |
| 8 | N.C | – | Not connected | – |
| 9 | RX1- | I | DVI signal | DVI differential signal (-) |
| 10 | RX1+ | I | DVI signal | DVI differential signal (+) |
| 11 | GND | – | GND | |
| 12 | N.C | – | Not connected | – |
| 13 | N.C | – | Not connected | – |
| 14 | DDC_+5V | I | I2C power supply for DDC | +5VDC |
| 15 | GND | – | GND | |
| 16 | HPD | O | Hot plug detection | +5VDC |
| 17 | RX0- | I | DVI signal | DVI differential signal (-) |
| 18 | RX0+ | I | DVI signal | DVI differential signal (+) |
| 19 | GND | – | GND | |
| 20 | N.C | – | Not connected | – |
| 21 | N.C | – | Not connected | – |

## • Voltages

### CN4003 (R3) < ⇔ MEDIA RECEIVER >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 22 | GND | – | GND | |
| 23 | RXC+ | I | DVI signal | DVI differential signal (-) |
| 24 | RXC- | I | DVI signal | DVI differential signal (+) |

### CN4009 (R7) < ⇔ HD AUDIO AMP ASSY >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | A_NG | I | Abnormal detecting signal of the audio block | +3.3V DC |
| 2 | V+6.5 | O | +6.5V power supply | +6.8V DC |
| 3 | GNDA | – | GND | |
| 4 | L_IN | O | L ch audio signal | Audio L signal |
| 5 | GNDA | – | GND | |
| 6 | R_IN | O | R ch audio signal | Audio R signal |
| 7 | ST_BY | O | Standby signal of the audio block | +3.3V DC |
| 8 | A_MUTE | O | Audio mute signal input | 0V DC |
| 9 | SCL | O | I2C control signal for audio | 0-3.3V amplitude square wave |
| 10 | SDA | O | I2C control signal for audio | 0-3.3V amplitude square wave |
| 11 | FOCUS | O | Focus function control signal | +3.3V DC |
| 12 | SRS | O | SRS function control signal | +3.3V DC |
| 13 | TRUBASS | O | TRUBASS function control signal | +3.3V DC |

### CN4010 (R8) < ⇔ PANEL LED ASSY, PANEL IR ASSY, KEY CONTROL ASSY >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | LED_G | O | LED control (green) | +2.1VDC |
| 2 | LED_R | O | LED control (red) | 0VDC |
| 3 | AC_OFF | O | Primary power supply (AC) state output at the panel side | 0VDC |
| 4 | STB3V | O | +3.3V power supply | +3.3V DC |
| 5 | STBGND | – | GND | |
| 6 | REM | I | Remote control code signal input | 0-3.3V amplitude square wave (at remocon code transmission) |
| 7 | STB+3V | O | +3.3V power supply | +3.3V DC |
| 8 | KEY | I | Function key code signal input at the panel side | 0-3.3V amplitude square wave (at key operation) |
| 9 | STBGND | – | GND | |

### CN4801 (SW1) < ⇔ KEY CONTROL ASSY >

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | STBGND | – | GND | 0V DC |
| 2 | G1 | O | Key scan signal | 0V DC |
| 3 | G0 | O | Key scan signal | 0V DC |
| 4 | D5 | I | Key scan signal | +3.3V DC |
| 5 | D6 | I | Key scan signal | +3.3V DC |
| 6 | D7 | I | Key scan signal | +3.3V DC |

## • Voltages

### CN4004 (R4) < ⇔ DIGITAL VIDEO ASSY > (1/2)

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | GND | – | GND | – |
| 2 | GND | – | GND | – |
| 3 | GND | – | GND | – |
| 4 | GND | – | GND | – |
| 5 | BA0 | O | 8bit video signal output (BLUE even number) | 0-3.3V amplitude square wave |
| 6 | BA1 | O | 8bit video signal output (BLUE even number) | 0-3.3V amplitude square wave |
| 7 | BA2 | O | 8bit video signal output (BLUE even number) | 0-3.3V amplitude square wave |
| 8 | BA3 | O | 8bit video signal output (BLUE even number) | 0-3.3V amplitude square wave |
| 9 | BA4 | O | 8bit video signal output (BLUE even number) | 0-3.3V amplitude square wave |
| 10 | BA5 | O | 8bit video signal output (BLUE even number) | 0-3.3V amplitude square wave |
| 11 | BA6 | O | 8bit video signal output (BLUE even number) | 0-3.3V amplitude square wave |
| 12 | BA7 | O | 8bit video signal output (BLUE even number) | 0-3.3V amplitude square wave |
| 13 | GND | – | GND | – |
| 14 | GND | – | GND | – |
| 15 | GND | – | GND | – |
| 16 | GND | – | GND | – |
| 17 | GA0 | O | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave |
| 18 | GA1 | O | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave |
| 19 | GA2 | O | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave |
| 20 | GA3 | O | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave |
| 21 | GA4 | O | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave |
| 22 | GA5 | O | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave |
| 23 | GA6 | O | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave |
| 24 | GA7 | O | 8bit video signal output (GREEN even number) | 0-3.3V amplitude square wave |
| 25 | GND | – | GND | – |
| 26 | GND | – | GND | – |
| 27 | GND | – | GND | – |
| 28 | GND | – | GND | – |
| 29 | RA0 | O | 8bit video signal output (RED even number) | 0-3.3V amplitude square wave |
| 30 | RA1 | O | 8bit video signal output (RED even number) | 0-3.3V amplitude square wave |
| 31 | RA2 | O | 8bit video signal output (RED even number) | 0-3.3V amplitude square wave |
| 32 | RA3 | O | 8bit video signal output (RED even number) | 0-3.3V amplitude square wave |
| 33 | RA4 | O | 8bit video signal output (RED even number) | 0-3.3V amplitude square wave |
| 34 | RA5 | O | 8bit video signal output (RED even number) | 0-3.3V amplitude square wave |
| 35 | RA6 | O | 8bit video signal output (RED even number) | 0-3.3V amplitude square wave |
| 36 | RA7 | O | 8bit video signal output (RED even number) | 0-3.3V amplitude square wave |
| 37 | GND\ | – | GND | – |
| 38 | DCLK | O | Synchronous signal output (clock) | 0-3.3V amplitude square wave (42.5MHz) |
| 39 | GND | – | GND | – |
| 40 | DEI | O | Synchronous signal output (data enable) | 0-3.3V amplitude square wave (positive polarity) |
| 41 | HDI | O | Synchronous signal output (Horizontal sync.) | 0-3.3V amplitude square wave (negative polarity) |
| 42 | VDI | O | Synchronous signal output (Vertical sync.) | 0-3.3V amplitude square wave (negative polarity) |
| 43 | FIELD | O | FIELD control signal | 0V DC |
| 44 | APL_DT | | Not connected | – |
| 45 | GND | – | GND | – |
| 46 | GND | – | GND | – |
| 47 | BB0 | O | 8bit video signal output (BLUE odd number) | 0-3.3V amplitude square wave |
| 48 | BB1 | O | 8bit video signal output (BLUE odd number) | 0-3.3V amplitude square wave |
| 49 | BB2 | O | 8bit video signal output (BLUE odd number) | 0-3.3V amplitude square wave |
| 50 | BB3 | O | 8bit video signal output (BLUE odd number) | 0-3.3V amplitude square wave |
| 51 | BB4 | O | 8bit video signal output (BLUE odd number) | 0-3.3V amplitude square wave |
| 52 | BB5 | O | 8bit video signal output (BLUE odd number) | 0-3.3V amplitude square wave |
| 53 | BB6 | O | 8bit video signal output (BLUE odd number) | 0-3.3V amplitude square wave |
| 54 | BB7 | O | 8bit video signal output (BLUE odd number) | 0-3.3V amplitude square wave |
| 55 | GND | – | GND | – |
| 56 | GND | – | GND | – |
| 57 | GND | – | GND | – |
| 58 | GND | – | GND | – |

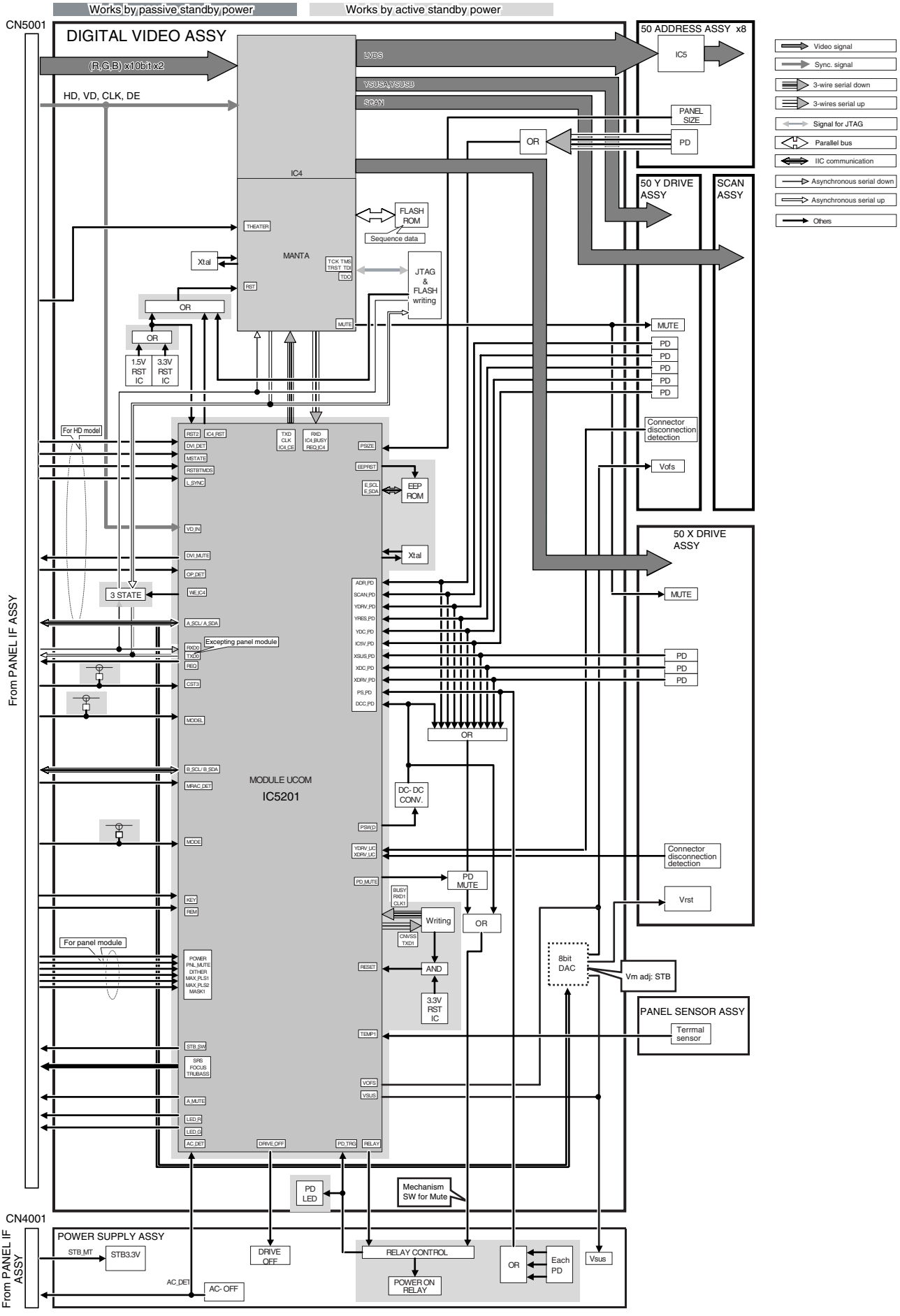
## • Voltages

### CN4004 (R4) < ⇔ DIGITAL VIDEO ASSY > (2/2)

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 59 | GB0 | O | 8bit video signal output (GREEN odd number) | 0-3.3V amplitude square wave |
| 60 | GB1 | O | 8bit video signal output (GREEN odd number) | 0-3.3V amplitude square wave |
| 61 | GB2 | O | 8bit video signal output (GREEN odd number) | 0-3.3V amplitude square wave |
| 62 | GB3 | O | 8bit video signal output (GREEN odd number) | 0-3.3V amplitude square wave |
| 63 | GB4 | O | 8bit video signal output (GREEN odd number) | 0-3.3V amplitude square wave |
| 64 | GB5 | O | 8bit video signal output (GREEN odd number) | 0-3.3V amplitude square wave |
| 65 | GB6 | O | 8bit video signal output (GREEN odd number) | 0-3.3V amplitude square wave |
| 66 | GB7 | O | 8bit video signal output (GREEN odd number) | 0-3.3V amplitude square wave |
| 67 | GND | – | GND | |
| 68 | GND | – | GND | |
| 69 | GND | – | GND | |
| 70 | GND | – | GND | |
| 71 | RB0 | O | 8bit video signal output (RED odd number) | 0-3.3V amplitude square wave |
| 72 | RB1 | O | 8bit video signal output (RED odd number) | 0-3.3V amplitude square wave |
| 73 | RB2 | O | 8bit video signal output (RED odd number) | 0-3.3V amplitude square wave |
| 74 | RB3 | O | 8bit video signal output (RED odd number) | 0-3.3V amplitude square wave |
| 75 | RB4 | O | 8bit video signal output (RED odd number) | 0-3.3V amplitude square wave |
| 76 | RB5 | O | 8bit video signal output (RED odd number) | 0-3.3V amplitude square wave |
| 77 | RB6 | O | 8bit video signal output (RED odd number) | 0-3.3V amplitude square wave |
| 78 | RB7 | O | 8bit video signal output (RED odd number) | 0-3.3V amplitude square wave |
| 79 | GND | – | GND | |
| 80 | MASK | | Not connected | – |
| 81 | MODE | | Not connected | – |
| 82 | MODEL | | Not connected | – |
| 83 | DITHER | | Not connected | – |
| 84 | V+3VACTV | O | Power supply +3.3V output of module UCOM at panel side | +3.3VDC |
| 85 | B_SDA | I | E2PROM control signal for backup | 0-3.3V amplitude square wave |
| 86 | RXD0 | O | UART communication receive data with the main UCOM (external PC) at MR side | 0-3.3V amplitude square wave |
| 87 | REM_B | O | Remote control code signal output | 0-3.3V amplitude square wave (at remocon code transmission) |
| 88 | TXD0 | I | UART communication transmission data with the main UCOM (external PC) at MR side | 0-3.3V amplitude square wave |
| 89 | KEY_B | O | Function key code signal output at panel side | 0-3.3V amplitude square wave (at key operation) |
| 90 | REQ_MD | I | Communication request to the main UCOM at MR side | 0-3.3V amplitude square wave |
| 91 | LED_R_B | I | LED control (red) | +3.3VDC |
| 92 | MR_AC_OFF | O | AC state output at MR side | 0VDC |
| 93 | LED_G_B | I | LED control (green) | 0VDC |
| 94 | POWER | | Not connected | – |
| 95 | DVI_MUTE | I | DVI mute signal input | 0VDC |
| 96 | MR_ST_B | O | Connection state detecting signal with MR | 0VDC |
| 97 | A_MUTE | I | Audio mute signal input | 0VDC |
| 98 | OP_DET | | GND | |
| 99 | A_NG | O | Abnormal detecting signal of audio block | +3.3VDC |
| 100 | PNL_MUTE | | Not connected | – |
| 101 | A_SCL | I | I2C control signal for audio | 0-3.3V amplitude square wave |
| 102 | STB_SW | I | Standby signal of audio block | +3.3VDC |
| 103 | A_SDA | I | I2C control signal for audio | 0-3.3V amplitude square wave |
| 104 | DDC_WP | I | GND | |
| 105 | TRUBASS | I | TRUBASS function control signal | +3.3VDC |
| 106 | B_SCL | I | E2PROM control signal for backup | 0-3.3V amplitude square wave |
| 107 | FOCUS | I | FOCUS function control signal | +3.3VDC |
| 108 | DVI_OFF | O | Connection detecting signal of DVI connector | 0VDC |
| 109 | SRS | I | SRS function control signal | +3.3VDC |
| 110 | RSTBTMD | O | TMDS IC reset signal | +3.3VDC |
| 111 | MAX_PLS1 | | Not connected | – |
| 112 | L_SYNC | O | TMDS IC synchronous detecting signal | +3.3VDC |
| 113 | MAX_PLS2 | | Not connected | – |
| 114 | GND | – | GND | |

## 3.1.5 DIGITAL VIDEO ASSY

### • Block Diagram



## • Voltages

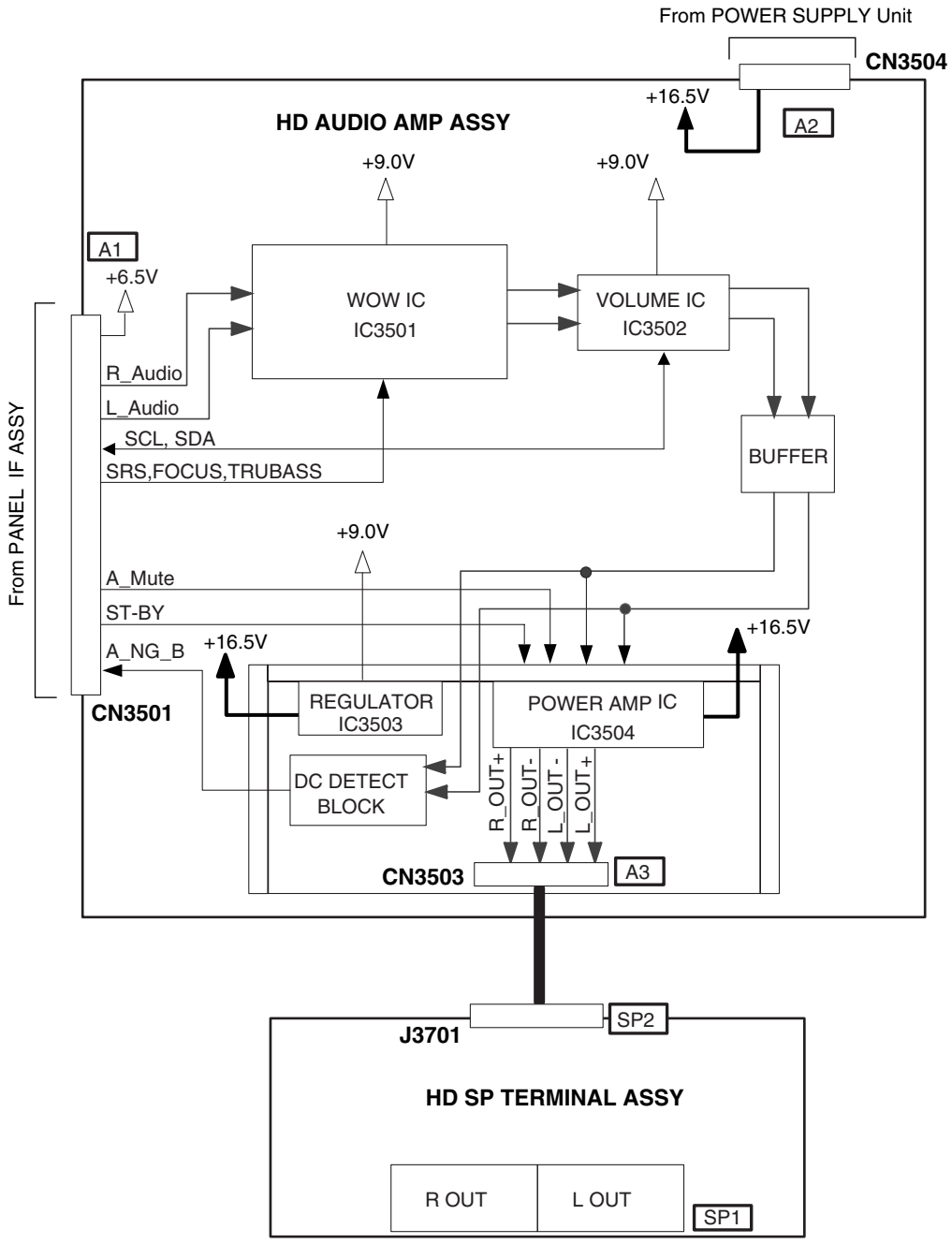
### CN5601 (D1)

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | +12V | I | +12V power input | +12VDC |
| 2 | +12V | I | +12V power input | +12VDC |
| 3 | GND_D | – | GND | |
| 4 | GND_D | – | GND | |
| 5 | PD | O | Power down signal | 0VDC |
| 6 | VSUS_ADJ | O | VSUS adjustment signal | |
| 7 | PS_PD | I | Power-down detecting signal of POWER SUPPLY block | 0VDC |
| 8 | RELAY | O | Relay control signal | +3.3VDC |
| 9 | DRF | O | Drive control signal | 0VDC |
| 10 | AC_DET | I | Primary side power (AC) state output at panel side | +3.0VDC |
| 11 | PD_TRIGGER | I | Power down trigger | +3.3VDC |

### CN5602 (D2)

| No. | Signal Name | I/O | Signal Description | Voltages at NTSC Signal Input |
|---|---|---|---|---|
| 1 | VADR | I | Address drive power (+61V) input | +61VDC |
| 2 | VADR | I | Address drive power (+61V) input | +61VDC |
| 3 | N.C | | Not connected | |
| 4 | GND_ADR | – | GND | |
| 5 | GND_ADR | – | GND | |
| 6 | +6.5V | I | +6.5V power input | +6.8VDC |
| 7 | GND_D | – | GND | |

## 3.1.6 HD AUDIO AMP ASSY

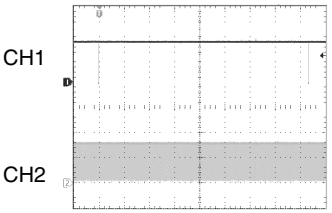


# 3.2 WAVEFORMS

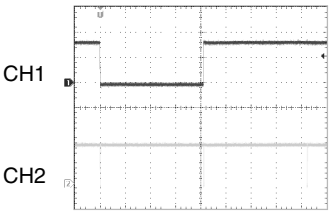
## DIGITAL VIDEO ASSY (4/6)

**• DIGITAL IF BLOCK**

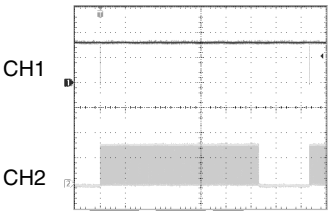
**① CH1: TP5102 (VD)**
**CH2: TP5101 (HD)**
V: 2V/div. H: 2msec/div.



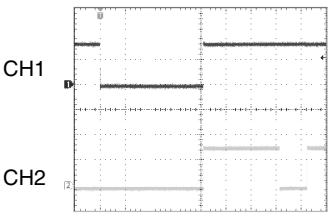

**① CH1: TP5102 (VD)**
**CH2: TP5101 (HD)**
V: 2V/div. H: 4µsec/div.



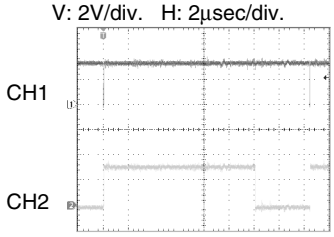

**② CH1: TP5102 (VD)**
**CH2: TP5103 (DE)**
V: 2V/div. H: 2msec/div.



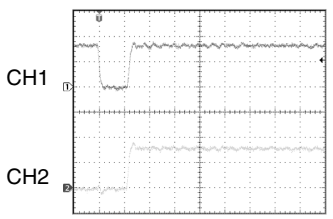

**② CH1: TP5102 (VD)**
**CH2: TP5103 (DE)**
V: 2V/div. H: 4µsec/div.



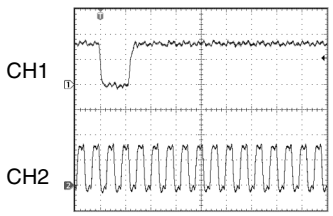

**③ CH1: TP5101 (HD)**
**CH2: TP5103 (DE)**
V: 2V/div. H: 2µsec/div.



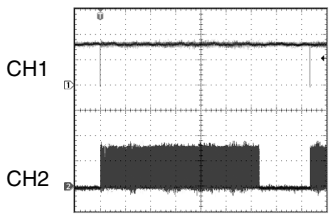

**③ CH1: TP5101 (HD)**
**CH2: TP5103 (DE)**
V: 2V/div. H: 40nsec/div.




**④ CH1: TP5101 (HD)**
**CH2: CN5001-pin 77 (DCLK)**
V: 2V/div. H: 40nsec/div.



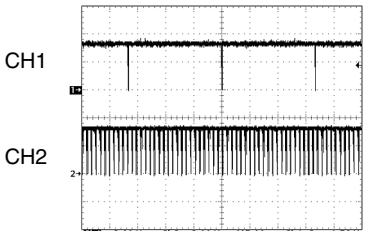

**⑤ CH1: TP5102 (VD)**
**CH2: CN5001-pin 86 (RA_IN2)**
V: 2V/div. H: 2msec/div.



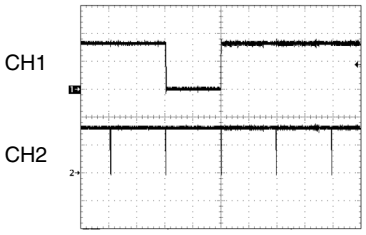
# PANEL IF ASSY (1/2)

**• TMDS RX BLOCK**

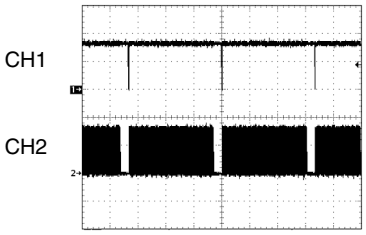
**① CH1: K4005 (VDI)**
**CH2: K4006 (HDI)**
V: 2V/div. H: 5msec/div.



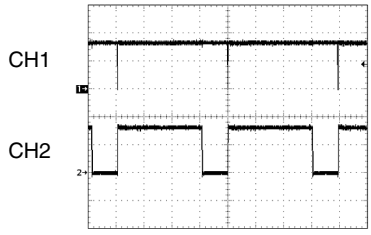

**① CH1: K4005 (VDI)**
**CH2: K4006 (HDI)**
V: 2V/div. H: 10µsec/div.



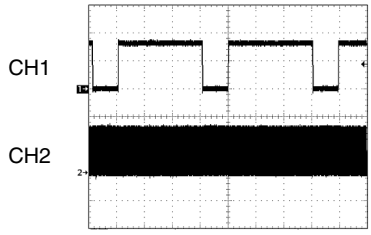

**② CH1: K4005 (VDI)**
**CH2: CN4004-pin 29 (RAO)**
V: 2V/div. H: 5msec/div.



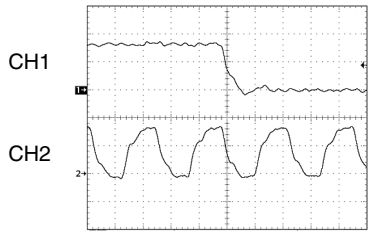

**③ CH1: K4006 (HDI)**
**CH2: K4003 (DEI)**
V: 2V/div. H: 5µsec/div.




**④ CH1: K4003 (DEI)**
**CH2: K4002 (DCLK)**
V: 2V/div. H: 5µsec/div.




**④ CH1: K4003 (DEI)**
**CH2: K4002 (DCLK)**
V: 2V/div. H: 10nsec/div.



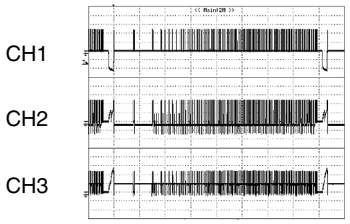
# 50 X DRIVE ASSY, 50 Y DRIVE ASSY and 50 SCAN A ASSY

**• 50 X SUS BLOCK, 50 Y LOGIC BLOCK, 50 Y SUS BLOCK**

### ① Drive Output Waveform (1 field,color-bar)

**CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)**
**CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)**
**CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)**

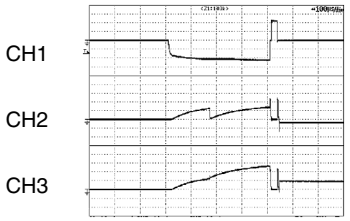
V: 100V/div. H: 2msec/div.




### ① Reset Pulse

**CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)**
**CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)**
**CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)**

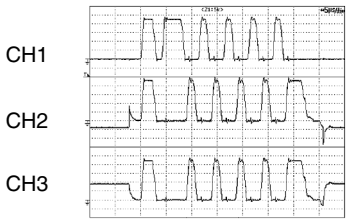
V: 100V/div. H: 100µsec/div.




### ① Sustain Pulse (1 sub-sub-field)

**CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)**
**CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)**
**CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)**

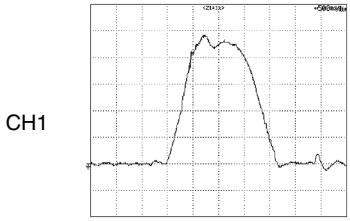
V: 50V/div. H: 5µsec/div.




### ② Sustain Waveform

**CH1: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)**

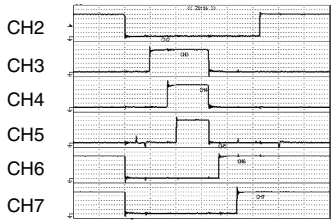
V: 50V/div. H: 500nsec/div.




### ③ Control Signal (Sustain Waveform Gen.)

**CH2: K2016 (YSUS-G) - K2010 (DGND)**
**CH3: K2025 (YSUS-U1) - K2010 (DGND)**
**CH4: K2022 (YSUS-U2) - K2010 (DGND)**
**CH5: K2026 (YSUS-B) - K2010 (DGND)**
**CH6: K2024 (YSUS-D2) - K2010 (DGND)**
**CH7: K2027 (YSUS-D1) - K2010 (DGND) (50 Y DRIVE ASSY)**

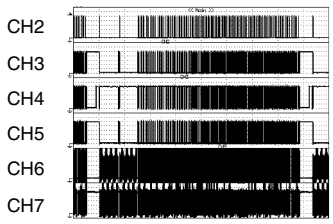
V: 1V/div. H: 500nsec/div.




### ④ Scan Control Signal (1 field, color-bar)

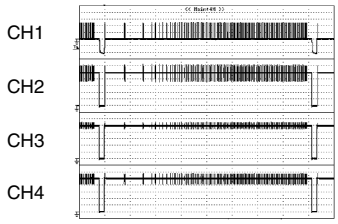
**CH2: K2006 (SI) - K2029 (DGND)**
**CH3: K2009 (OC1) - K2029 (DGND)**
**CH4: K2004 (OC2) - K2029 (DGND)**
**CH5: K2007 (CLR) - K2029 (DGND)**
**CH6: K2003 (CLK2) - K2029 (DGND)**
**CH7: K2008 (LE) - K2029 (DGND) (50 Y DRIVE ASSY)**

V: 1V/div. H: 2msec/div.



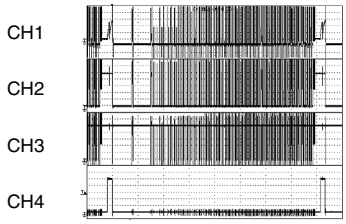

### ⑤ X Drive Pulse Control Signal (color-bar)

**CH1: R1226 (XPSUS) - K2301 (SUSGND)**
V: 100V/div. H: 2msec/div.
**CH2: K1016 (XCP-MSK) - K1020 (DGND)**
**CH3: K1015 (XSUS-MSK) - K1020 (DGND)**
**CH4: K1014 (XNR-D) - K1020 (DGND)**
V: 1V/div. H: 2msec/div.
**(50 X DRIVE ASSY)**




### ⑥ Y Drive Pulse Control Signal (color-bar)

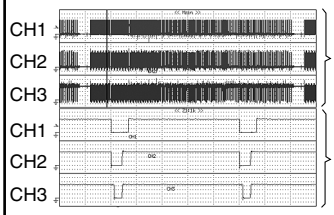
**CH1: R2348 (YPSUS) - K2301 (SUSGND)**
V: 50V/div. H: 2msec/div.
**CH2: K2015 (YSUS-MSK) - K2010 (DGND)**
**CH3: K2017 (YSOFT-D) - K2010 (DGND)**
**CH4: K2023 (YPR-U) - K2010 (DGND)**
V: 1V/div. H: 2msec/div.
**(50 Y DRIVE ASSY)**



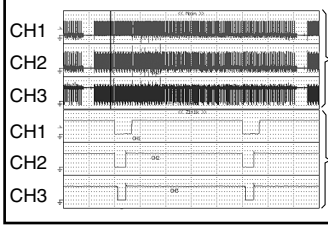
## 50 ADDRESS ASSY

**• ADR RESONANCE BLOCK (VIDEO and PC)**

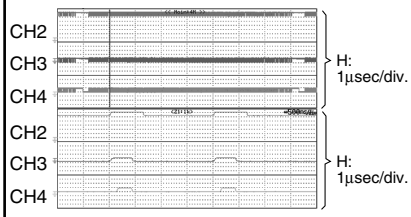
**① CH1: IC1601-pin 2 (ADR_B2)**
**CH2: IC1603-pin 4 (ADR_U1)**
**CH3: IC1603-pin 2 (ADR_D1)**
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)




**② CH1: IC1601-pin 2 (ADR_B2)**
**CH2: IC1602-pin 4 (ADR_U2)**
**CH3: IC1602-pin 2 (ADR_D2)**
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)

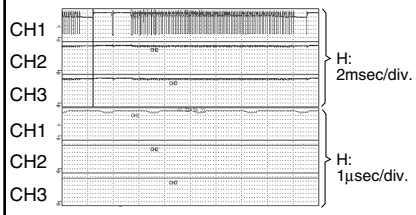



**③ CH2: Q1601-pin 4 (ADR_B2)**
**CH3: Q1603-pin 4 (ADR_U1)**
**CH4: Q1603-pin 2 (ADR_D1)**
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)

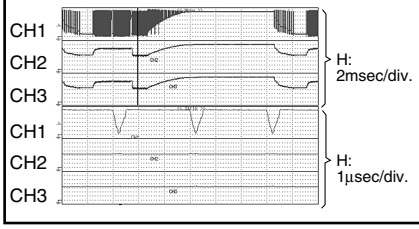



**④ CH2: Q1601-pin 4 (ADR_B2)**
**CH3: Q1602-pin 4 (ADR_U2)**
**CH4: Q1602-pin 2 (ADR_D2)**
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)

**⑤ CH1: Q1601 Drain (V+ADR)**
**CH2: Q1603 Source**
**CH3: Q1602 Source**
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)



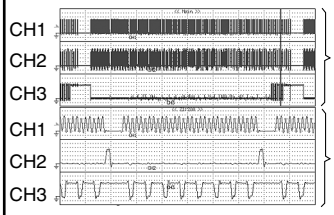

**⑥ CH1: Q1601 Drain (V+ADR)**
**CH2: Q1603 Source**
**CH3: Q1602 Source**
V: 10V/div.
(Input: VIDEO, Signal: B/W(1×8))



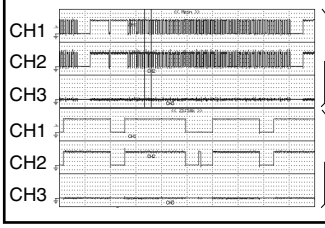

## 50 ADDRESS ASSY

**• ADR LOGIC BLOCK**

**① CH1: IC1553-pin 18 (CLK input)**
**CH2: IC1553-pin 16 (LE input)**
**CH3: IC1553-pin 9 (DATA input)**
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)




**② CH1: IC1553-pin 23 (HBLK input)**
**CH2: IC1553-pin 19 (LBLK input)**
**CH3: IC1553-pin 25 (HZ input)**
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)



# 5. PCB PARTS LIST

*NOTES:*
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

*Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).*

| | | | |
|---|---|---|---|
| *560 Ω* | → *56 x 10[1]* → | *561* | *RD1/4PU[5][6][1]J* |
| *47k Ω* | → *47 x 10[3]* → | *473* | *RD1/4PU[4][7][3]J* |
| *0.5 Ω* | → | *R50* | *RN2H[R][5][0]K* |
| *1 Ω* | → | *1R0* | *RS1P[1][R][0]K* |

*Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).*

| | | | |
|---|---|---|---|
| *5.62k Ω* | → *562 x 10[1]* → | *5621* | *RN1/4PC[5][6][2][1]F* |

## LIST OF ASSEMBLIES

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | ..50 ADDRESS ASSY | AWV2080 |
| NSP | 2 | ..50 ADDRESS ASSY | AWZ6870 |
| NSP | 1 | ..50 SCAN ASSY | AWV2083 |
| NSP | 2 | ..50 SCAN A ASSY | AWZ6878 |
| NSP | 2 | ..50 SCAN B ASSY | AWZ6879 |
| NSP | 2 | ..X CONNECTOR A ASSY | AWZ6880 |
| NSP | 2 | ..X CONNECTOR B ASSY | AWZ6881 |
| NSP | 1 | ..HD PANEL IF ASSY | AWV2073 |
| | 2 | ..PANEL IF ASSY | AWZ6841 |
| | 1 | ..DIGITAL VIDEO ASSY | AWV2074 |
| NSP | 1 | ..HD AUDIO ASSY | AWV2075 |
| | 2 | ..HD AUDIO AMP ASSY | AWZ6863 |
| | 2 | ..HD SP TERMINAL ASSY | AWZ6864 |
| NSP | 1 | ..50 X DRIVE ASSY | AWV2081 |
| | 2 | ..PANEL LED ASSY | AWZ6842 |
| | 2 | ..PANEL KEY ASSY | AWZ6843 |
| | 2 | ..KEY CONTROL ASSY | AWZ6844 |
| | 2 | ..PANEL IR ASSY | AWZ6845 |
| | 2 | ..PANEL SENSOR ASSY | AWZ6872 |
| | 2 | ..50 X DRIVE ASSY | AWZ6877 |
| | 1 | ..50 Y DRIVE ASSY | AWV2082 |
| ⚠ | 1 | ..POWER SUPPLY UNIT | AXY1085 |

## 50 ADDRESS ASSY

**[50 ADR LOGIC BLOCK]**

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | | IC1501 | PEE001B |
| **COILS AND FILTERS** | | | |
| | | L1504 | QTL1013 |
| **CAPACITORS** | | | |
| | | C1501, C1502 (47/6.3V) | ACH1357 |
| | | C1509, C1510 | CKSSYB102K50 |
| | | C1503-C1507, C1511, C1512, C1552 | CKSSYF104Z16 |
| | | C1555, C1558, C1561, C1564 | CKSSYF104Z16 |
| **RESISTORS** | | | |
| | | R1510, R1519, R1522, R1526 | RAB4C470J |
| | | R1505-R1509, R1530, R1531 | RS1/16SS1000F |
| | | R1511-R1518, R1520, R1521, R1523 | RS1/16SS470J |
| | | R1524, R1527, R1528, R1532-R1535 | RS1/16SS470J |
| | | Other Resistors | RS1/16S###J |
| **OTHERS** | | | |
| | | CN1501 40P FFC CONNECTOR | AKM1215 |

**[50 ADR RESONANCE BLOCK]**

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | | IC1601-IC1603 | TND307TD |
| | | Q1604 | 2SA1163 |
| | | Q1601 | HAT1110R |
| | | Q1602, Q1603 | HAT3021R |
| | | D1601 | 1SS302 |
| | | D1605, D1606, D1616, D1617 | D1FL20U(S) |
| | | D1610, D1619 | RF051UA1D |
| | | D1602, D1607, D1615 | UDZS15(B) |
| **COILS AND FILTERS** | | | |
| | | L1601, L1602 | ATH1164 |
| **CAPACITORS** | | | |
| | | C1605 (0.01/100V) | ACG1101 |
| | | C1619, C1620 (330P/100V) | ACG1105 |
| | | C1609, C1615 (0.1/100V) | ACG1119 |
| | | C1618 (47/6.3V) | ACH1357 |
| | | C1603 (47/16V) | ACH1391 |
| | | C1601, C1602 (56/80V) | ACH1405 |
| | | C1608, C1614 | CKSRYB104K25 |
| | | C1604, C1606, C1612 | CKSSYF104Z16 |
| **RESISTORS** | | | |
| | | R1631 | ACN1174 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | | Other Resistors | RS1/16S###J |

## 50 SCAN A ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC3001-IC3006 | AN16021AA |
| | D3003-D3006 | 1SS355 |

### CAPACITORS

| | | |
|---|---|---|
| | C3001, C3002, C3012, C3013 (0.1/250V) | ACG1088 |
| | C3023, C3024, C3034, C3035 (0.1/250V) | ACG1088 |
| | C3045, C3046, C3056, C3057 (0.1/250V) | ACG1088 |
| | C3005, C3008, C3016, C3019, C3026 | CCSRCH101J50 |
| | C3029, C3037, C3040, C3048, C3051 | CCSRCH101J50 |
| | C3060, C3063 | CCSRCH101J50 |
| | C3007, C3018, C3033, C3044, C3050 | CCSRCH181J50 |
| | C3062 | CCSRCH181J50 |
| | C3006, C3011, C3017, C3022 | CCSRCH331J50 |
| | C3031, C3032, C3042, C3043, C3049 | CCSRCH331J50 |
| | C3055, C3061, C3066 | CCSRCH331J50 |
| | C3009, C3010, C3020, C3021, C3028 | CCSRCH390J50 |
| | C3030, C3039, C3041, C3053, C3054 | CCSRCH390J50 |
| | C3064, C3065 | CCSRCH390J50 |
| | C3003, C3014, C3025, C3036, C3047 | CKSRYB105K6R3 |
| | C3058 | CKSRYB105K6R3 |

### RESISTORS

| | | |
|---|---|---|
| | R3003, R3011, R3017, R3025, R3030 | RAB4C221J |
| | R3036 | RAB4C221J |
| | Other Resistors | RS1/16S###J |

### OTHERS

| | | |
|---|---|---|
| | CN3001 13P CONNECTOR NON PB | AKP1261 |
| | K3001, K3004, K3009, K3015, K3017 | AKX9002 |
| | K3019, K3021 TEST PIN | AKX9002 |

## 50 SCAN B ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC3201-IC3206 | AN16021AA |
| | D3203-D3206 | 1SS355 |

### CAPACITORS

| | | |
|---|---|---|
| | C3201, C3211, C3212, C3222, C3223 | ACG1088 |
| | C3233, C3234, C3244, C3245(0.1/250V) | ACG1088 |
| | C3255, C3256, C3266 (0.1/250V) | ACG1088 |
| | C3203, C3204, C3214, C3215, C3226 | CCSRCH101J50 |
| | C3228, C3237, C3239, C3247, C3251 | CCSRCH101J50 |
| | C3258, C3259 | CCSRCH101J50 |
| | C3206, C3217, C3232, C3243, C3249 | CCSRCH181J50 |
| | C3261 | CCSRCH181J50 |
| | C3205, C3210, C3216, C3221 | CCSRCH331J50 |
| | C3230, C3231, C3241, C3242, C3248 | CCSRCH331J50 |
| | C3254, C3260, C3265 | CCSRCH331J50 |
| | C3208, C3209, C3219, C3220, C3227 | CCSRCH390J50 |
| | C3229, C3238, C3240, C3252, C3253 | CCSRCH390J50 |
| | C3263, C3264 | CCSRCH390J50 |
| | C3202, C3213, C3224, C3235, C3246 | CKSRYB105K6R3 |
| | C3257 | CKSRYB105K6R3 |

### RESISTORS

| | | |
|---|---|---|
| | R3202, R3210, R3216, R3224, R3229 | RAB4C221J |
| | R3235 | RAB4C221J |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | | Other Resistors | RS1/16S###J |

### OTHERS

| | | |
|---|---|---|
| | CN3201 13P CONNECTOR NONPB | AKP1261 |
| | K3203, K3208, K3214, K3216, K3218 | AKX9002 |
| | K3221 TEST PIN | AKX9002 |

## X CONNECTOR A ASSY

This assembly has no service part.

## X CONNECTOR B ASSY

This assembly has no service part.

## PANEL IF ASSY

### [PANEL IF BLOCK]

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC4002 | BR24L02FJ-W |
| ⚠ | IC4003 | NCP1117DT33 |
| | IC4006 | SN74AHC541PW |
| | Q4007 | DTA143EUA |
| | Q4004, Q4008, Q4009, Q4012 | DTC143EUA |
| | Q4014-Q4017 | DTC143EUA |
| | Q4005, Q4006, Q4010, Q4013 | RN1901 |
| | Q4011 | RN2901 |
| | Q4001 | SM6K2 |
| | D4006 | 1SS355 |
| | D4001-D4004, D4007 | RB751V-40 |
| ⚠ | D4005 | UDZS5R1(B) |

### COILS AND FILTERS

| | | |
|---|---|---|
| | F4002 | ATF1213 |
| | L4001 | LCTAW221J3225 |

### CAPACITORS

| | | |
|---|---|---|
| | C4009, C4020 | CCSRCH471J50 |
| | C4005, C4006 | CCSSCH100D50 |
| | C4019 | CCSSCH101J50 |
| | C4011, C4018, C4021 | CEAT101M10 |
| | C4003, C4015 | CEAT101M16 |
| | C4004, C4010, C4012, C4014 | CKSRYB103K50 |
| | C4016, C4024, C4041 | CKSSYF104Z16 |

### RESISTORS

| | | |
|---|---|---|
| | R4006 | RAB4C101J |
| | R4001 | RS1/16S331J |
| | Other Resistors | RS1/16SS###J |

### OTHERS

| | | |
|---|---|---|
| | CN4004 114PFFC CONNECTOR | AKM1216 |
| | CN4003 DVI SOCKET (24P) | AKP1216 |
| | CN4002 SOCKET (20P) | AKP1226 |
| | CN4001 PLUG (8P) | KM200NA8 |
| | CN4010 PLUG (9P) | KM200NA9 |
| | CN4009 PLUG (13P) | KM200NA13 |

### [TMDS RX BLOCK]

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC4206 | BA8274F |
| | IC4205 | PST3628UR |
| | IC4202 | SII169CTG100 |

| Mark No. | Description | Part No. |
|---|---|---|
| Q4215 | | SM6K2 |
| D4203, D4204 | | 1SS355 |
| D4202 | | UDZS6R8(B) |

**COILS AND FILTERS**

| | | |
|---|---|---|
| L4201 | | ATH1162 |

**CAPACITORS**

| | | |
|---|---|---|
| C4208, C4215, C4218, C4222, C4230 | | CCSRCH331J50 |
| C4262 | | CCSRCH471J50 |
| C4207, C4210, C4232, C4233, C4236 | | CCSSCH820J50 |
| C4241, C4244, C4258 | | CCSSCH820J50 |
| C4242, C4246 | | CEAT101M10 |
| C4202, C4237, C4238 | | CEAT470M10 |
| C4260 | | CKSRYB472K50 |
| C4203, C4213, C4240, C4243, C4247 | | CKSSYF104Z16 |
| C4261, C4271 | | CKSSYF104Z16 |

**RESISTORS**

| | | |
|---|---|---|
| R4241 | | RAB4C220J |
| R4213-R4218, R4245, R4247 | | RAB4C470J |
| R4253-R4255, R4257 | | RAB4C470J |
| R4250 | | RS1/16S3900F |
| R4222- R4225 | | RS1/16S0R0J |
| Other Resistors | | RS1/16SS###J |

## DIGITAL VIDEO ASSY

**[DIGITAL IF BLOCK]**

**RESISTORS**

| | | |
|---|---|---|
| R5101-R5115, R5131 | | RAB4C470J |
| Other Resistors | | RS1/16SS###J |

**OTHERS**

| | | |
|---|---|---|
| CN5001 114P FFC CONNECTOR | | AKM1216 |

**[MODULE UCOM BLOCK]**

**SEMICONDUCTORS**

| | | |
|---|---|---|
| IC5206 | | BR24L04FJ-W |
| IC5201 | | M30622F8PGP |
| IC5205 | | PST3628UR |
| IC5208 | | SN74AHC08PW |
| IC5214, IC5215 | | SN74AHC32PW |
| IC5211, IC5212 | | SN74AHC541PW |
| IC5209 | | TC7W126FU |
| Q5201 | | 2SJ461A |
| Q5202 | | DTC143EUA |
| D5217 | | 1SS355 |
| D5207-D5212 | | DAN202U |
| D5201 | | SML-310LT |

**SWITCHES AND RELAYS**

| | | |
|---|---|---|
| S5201 | | ASH1047 |

**CAPACITORS**

| | | |
|---|---|---|
| C5213, C5225 | | ACH1357 |
| C5205 | | CKSRYB472K50 |
| C5206, C5223, C5231, C5245-C5252 | | CKSSYB102K50 |
| C5257- C5260 | | CKSSYB102K50 |
| C5202-C5204, C5207, C5208 | | CKSSYF104Z16 |
| C5210-C5212, C5218, C5224 | | CKSSYF104Z16 |
| C5226, C5227, C5243, C5244 | | CKSSYF104Z16 |

| Mark No. | Description | Part No. |
|---|---|---|

**RESISTORS**

| | | |
|---|---|---|
| R5209, R5211, R5212, R5235 | | RAB4C101J |
| R5254, R5255, R5265, R5266 | | RAB4C101J |
| R5205 | | RAB4C103J |
| R5270, R5271 | | RAB4C472J |
| R5256, R5257 | | RAB4C474J |
| R5294 | | RS1/16S0R0J |
| Other Resistors | | RS1/16SS###J |

**OTHERS**

| | | |
|---|---|---|
| CN5201 PLUG 8-P | | AKM1225 |
| CN5202 CONNECTOR | | AKM1274 |
| ⚠X5201 CERAMIC RESONATOR | | ASS1178 |

**[PANEL FLASH BLOCK]**

**SEMICONDUCTORS**

| | | |
|---|---|---|
| IC5305 | | MBM29PL160BD-75PFTN |
| IC5303 | | PST3612UR |
| IC5301 | | PST3628UR |
| IC5302 | | SN74AHC08PW |
| Q5301 | | RN1901 |
| D5301-D5310 | | DA204U |

**CAPACITORS**

| | | |
|---|---|---|
| C5320 | | CCSRCH470J50 |
| C5321, C5322 | | CCSRCH471J50 |
| C5311, C5314 | | CKSRYB104K16 |
| C5303, C5306 | | CKSRYB472K50 |
| C5304, C5307 | | CKSSYB102K50 |
| C5301, C5302, C5305, C5309, C5313 | | CKSSYF104Z16 |
| C5316 | | CKSSYF104Z16 |

**RESISTORS**

| | | |
|---|---|---|
| R5317, R5318 | | RAB4C101J |
| Other Resistors | | RS1/16SS###J |

**OTHERS**

| | | |
|---|---|---|
| CN5301 PLUG 15-P | | AKM1232 |
| ⚠X5302 CRYSTAL OSCILLATOR | | ASS1174 |
| ⚠X5301 CRYSTAL OSCILLATOR | | ASS1182 |

**[IC4 BLOCK]**

**SEMICONDUCTORS**

| | | |
|---|---|---|
| IC5401 | | PEG054A |
| D5401 | | SML-310LT |
| D5402 | | SML-310MT |

**COILS AND FILTERS**

| | | |
|---|---|---|
| F5401, F5403, F5409, F5410 | | ATF1213 |

**CAPACITORS**

| | | |
|---|---|---|
| C5401, C5413, C5417, C5424 (100UF/6.3V) | | ACH1396 |
| C5434, C5435 | | CKSSYB102K50 |
| C5402-C5412, C5414-C5416 | | CKSSYF104Z16 |
| C5418-C5423, C5425-C5431 | | CKSSYF104Z16 |

**RESISTORS**

| | | |
|---|---|---|
| R5406, R5421 | | RAB4C101J |
| R5408-R5413, R5415, R5416, R5419 | | RAB4C220J |
| R5422 | | RAB4C220J |
| R5405 | | RS1/16S5601F |

| Mark No. | Description | Part No. |
|---|---|---|
| | R5401-R5404 | RS1/16S0R0J |
| | Other Resistors | RS1/16SS###J |
| | **[ADDRESS CN BLOCK]** | |
| | **RESISTORS** | |
| | Other Resistors | RS1/16SS###J |
| | **OTHERS** | |
| | CN5521 50P CONNECTOR | AKM1201 |
| ⚠ | CN5501-CN5508 40P CONNECTOR | AKM1217 |
| | CN5511 30P FFC CONNECTOR | AKM1218 |
| | **[DIGITAL DD CON BLOCK]** | |
| | **SEMICONDUCTORS** | |
| ⚠ | IC5605 | BA90BC0FP |
| ⚠ | IC5604 | MM1665AT |
| | Q5601 | HN1C01FU |
| | D5602, D5609 | DAN202U |
| | D5601 | HZU2R2(B) |
| | D5604 | UDZS5R1(B) |
| | **CAPACITORS** | |
| | C5601, C5603, C5614, C5616 (100UF/16V) | ACH1394 |
| | C5602, C5604, C5615, C5617 | CKSRYB103K50 |
| | C5605, C5606 | CKSSYF104Z16 |
| | **RESISTORS** | |
| | R5613 | RS1/16S0R0J |
| | Other Resistors | RS1/16SS###J |
| | **OTHERS** | |
| ⚠ | CN5602 7P CONNECTOR | AKM1278 |
| ⚠ | CN5601 11P CONNECTOR | AKM1282 |
| | U5602 DD CON UNIT | AXY1086 |

## HD AUDIO AMP ASSY

| Mark No. | Description | Part No. |
|---|---|---|
| | **SEMICONDUCTORS** | |
| | IC3502 | BD3869AS |
| | IC3504 | LA4625 |
| | IC3501 | NJM2195L |
| | IC3503 | NJM7809FA |
| | Q3501, Q3502, Q3507, Q3510, Q3511 | 2SA1162 |
| | Q3503, Q3504, Q3508 | 2SC2712 |
| | Q3512 | DTC124EK |
| | D3501-D3504 | 1SS355 |
| | **CAPACITORS** | |
| | C3525 | CCSRCH221J50 |
| | C3501-C3504, C3520, C3528-C3532 | CEAT100M50 |
| | C3505, C3526, C3549, C3557, C3564 | CEAT101M16 |
| | C3519 | CEAT1R0M50 |
| | C3536 | CEAT220M50 |
| | C3537, C3538 | CEAT2R2M50 |
| | C3551, C3552 | CEAT330M25 |
| | C3566 | CEHAT101M10 |
| | C3561 | CEHAT101M16 |
| | C3562, C3565 | CEHAT220M50 |
| | C3559, C3560 | CEHAT2R2M50 |
| | C3509 | CEHAT331M16 |
| | C3507 | CEHAT471M25 |
| | C3571 | CEHAT472M25 |
| | C3563 | CEHATR47M50 |
| | C3512, C3522, C3572 | CFTLA103J50 |
| | C3511, C3513-C3518, C3533, C3534 | CFTLA104J50 |
| | C3545-C3548, C3573-C3576 | CFTLA104J50 |
| | C3521 | CFTLA333J50 |
| | C3524 | CFTLA334J50 |
| | C3523 | CFTLA474J50 |
| | C3506, C3508, C3510, C3527, C3535 | CKSRYB103K50 |
| | C3550, C3558 | CKSRYB103K50 |
| | C3543, C3544 | CQMA222J50 |
| | **RESISTORS** | |
| | R3599-R3602 | RD1/2MMF2R2J |
| | Other Resistors | RS1/16S###J |
| | **OTHERS** | |
| | 3511 AUDIO HEATSINK | ANH1612 |
| | CN3504 CONNECTOR | B3P-VH |
| | CN3502, CN3503 PLUG (6P) | KM200NA6 |
| | CN3501 PLUG (13P) | KM200NA13 |
| | 3512-3515 SCREW | VBB30P100FNI |
| | KN3501, KN3502 WRAPPING TERMINAL | VNF1084 |

## HD SP TERMINAL ASSY

| Mark No. | Description | Part No. |
|---|---|---|
| | **COILS AND FILTERS** | |
| ⚠ | L3701, L3702 | ATF1206 |
| | **CAPACITORS** | |
| ⚠ | C3701-C3704 | CCSRCH101J50 |
| | C3713-C3716 | CCSRCH221J50 |
| | C3709, C3710 | CKSRYB332K50 |
| | C3711, C3712 | CKSRYF473Z50 |
| | **RESISTORS** | |
| | R3701-R3704 | RD1/2MMF100J |
| | **OTHERS** | |
| | J3701 6P HOUSING WIRE | ADX3041 |
| | CN3701 SPEAKER TERMINAL | AKE1060 |
| ⚠ | 3701 SPEAKER SHIELD A | ANK1710 |
| ⚠ | 3702 SPEAKER SHIELD B | ANK1711 |

## PANEL LED ASSY

| Mark No. | Description | Part No. |
|---|---|---|
| | **SEMICONDUCTORS** | |
| | D4751 | SML-310MT |
| | D4752 | SML-311UT |
| | **COILS AND FILTERS** | |
| | F4751- F4753 | QTL1011 |
| | **OTHERS** | |
| | CN4751 PLUG (3P) | KM200NA3 |

## PANEL KEY ASSY

**SWITCHES AND RELAYS**

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | S4801-S4806 | | VSG1024 |
| | **OTHERS** | | |
| | CN4801 | 6P FFC CONNECTOR | AKM1208 |

## KEY CONTROL ASSY

| | | | |
|---|---|---|---|
| | **SEMICONDUCTORS** | | |
| | IC4851 | | PD5719A |
| | D4851-D4853, D4855, D4856 | | DA204U |
| | **COILS AND FILTERS** | | |
| | F4851- F4856 | | QTL1011 |
| | **CAPACITORS** | | |
| ⚠ | C4856-C4858 | | CCSSCH101J50 |
| | C4854 | | CEAT470M50 |
| | C4853 | | CKSRYB103K50 |
| | **RESISTORS** | | |
| | R4858 | | RAB4C182J |
| | R4861-R4863 | | RS1/16S101J |
| | Other Resistors | | RS1/16SS###J |
| | **OTHERS** | | |
| | CN4851 | 6P FFC CONNECTOR | AKM1272 |
| ⚠ | X4851 | CERALOCK | ASS1162 |
| | CN4852 | PLUG (4P) | KM200NA4 |

## PANEL IR ASSY

| | | | |
|---|---|---|---|
| | **SEMICONDUCTORS** | | |
| | Q4901 | | 2SC4116 |
| | D4902 | | DA204U |
| | **CAPACITORS** | | |
| | C4901 | | CEVW470M6R3 |
| | C4902 | | CKSRYB103K50 |
| | C4903 | | CKSSYB102K50 |
| | C4904 | | CKSSYF104Z16 |
| | **RESISTORS** | | |
| | Other Resistors | | RS1/16SS###J |
| | **OTHERS** | | |
| | CN4901 | L-PLUG (3P) | KM200NA3L |
| | U4901 | REMOTE RECEIVER UNIT | RPM7240-H5 |

## PANEL SENSOR ASSY

| | | | |
|---|---|---|---|
| | **SEMICONDUCTORS** | | |
| | IC1072 | | MM1522XU |
| | IC1071 | | MM3012XN |
| | **CAPACITORS** | | |
| | C1071, C1074, C1075 | | CKSRYB103K50 |
| | C1072, C1073 | | CKSRYF105Z10 |
| | **RESISTORS** | | |
| | R1073, R1074 | | RS1/16S1001F |
| | Other Resistors | | RS1/16SS###J |
| | **OTHERS** | | |
| | CN1071 | PLUG (3P) | KM200NA3 |

| Mark | No. | Description | Part No. |
|---|---|---|---|

## 50 X DRIVE ASSY

**[50 X LOGIC BLOCK]**

| | | | |
|---|---|---|---|
| | **SEMICONDUCTORS** | | |
| | IC1002 | | TC74ACT540FT |
| | IC1001 | | TC74ACT541FT |
| | IC1003 | | TC74VHC08FT |
| | **CAPACITORS** | | |
| | C1001 | | CEHAT470M25 |
| | C1002-C1004 | | CKSSYB104K10 |
| | **RESISTORS** | | |
| | R1001, R1002, R1005 | | RAB4C470J |
| | R1003, R1004, R1007 | | RAB4C472J |
| | Other Resistors | | RS1/16S###J |
| | **OTHERS** | | |
| | CN1001 | 30P FFC CONNECTOR | AKM1218 |

**[50 X RESONANCE BLOCK]**

| | | | |
|---|---|---|---|
| | **SEMICONDUCTORS** | | |
| | IC1103 | | BA10393F |
| | IC1101, IC1102 | | TND506MD |
| | Q1113 | | 2SC4116 |
| | Q1102, Q1103, Q1111, Q1112 | | 2SK3555-01MR |
| | Q1105, Q1108, Q1109 | | 2SK3592-01S |
| | Q1101, Q1104, Q1107, Q1110 | | QSZ2 |
| | D1109, D1122 | | 1SS302 |
| | D1112, D1119, D1135, D1136 | | 1SS355 |
| | D1101, D1102, D1104, D1105 | | D1FL40 |
| | D1107, D1108, D1111, D1114-D1117 | | D1FL40 |
| | D1120, D1121, D1127, D1128 | | D1FL40 |
| | D1103, D1113, D1118, D1125 | | RF2001T3D |
| | D1129, D1130 | | RF2001T3D |
| | D1110, D1123 | | UDZS16(B) |
| | **COILS AND FILTERS** | | |
| | L1103, L1105 | | ATH1119 |
| | L1104 | | ATH1155 |
| | L1102 | | ATH1156 |
| | L1101 | | LFEA470J |
| | **CAPACITORS** | | |
| | C1112, C1113, C1125-C1127 | | ACE1175 |
| | C1111, C1124 (100P/630V) | | ACG1104 |
| | C1109, C1119 (0.22/250V) | | ACG1112 |
| | C1134, C1135 (150P/630V) | | ACG1120 |
| | C1101, C1105, C1116, C1117 | | CCSRCH331J50 |
| | C1136 | | CEHAT2R2M50 |
| | C1102, C1118 | | CKSRYB105K6R3 |
| | C1128, C1130-C1132 | | CKSSYB104K10 |
| | C1104, C1108, C1115, C1122 | | CKSYB105K25 |
| | **RESISTORS** | | |
| | R1116, R1122 | | RS1/10S1003F |
| | R1133, R1143-R1145 | | RS1/10S100J |
| | R1155, R1156 | | RS1/10S220J |
| | R1103, R1106, R1118, R1119, R1123 | | RS1/10S2R2J |
| | R1126, R1153 | | RS1/10S2R2J |
| | R1136 | | RS1/16S1202F |
| | R1139 | | RS1/16S3301F |
| | R1130 | | RS1/16S5601F |
| | R1134 | | RS1/16S8201F |

| Mark No. | Description | Part No. |
|---|---|---|
| | R1113, R1128 | RS1MMF101J |
| | R1147, R1148 | RS2MMF220J |
| | VR1101-VR1104 | CCP1390 |
| | Other Resistors | RS1/16S###J |

**OTHERS**

| | | |
|---|---|---|
| 1101 | DRIVE HEATSINK | ANH1628 |
| 1101 | SCREW | PMH30P080FTC |

**[50 X SUS BLOCK]**

**SEMICONDUCTORS**

| | |
|---|---|
| IC1202 | HCPL-M611 |
| IC1205 | NJM2872F05 |
| IC1203, IC1207 | STK795-512A |
| IC1206 | TND301S |
| IC1204, IC1209 | TND307TD |
| Q1209 | 2SA1727 |
| Q1203 | 2SD1898 |
| Q1205 | 2SK2865 |
| Q1208 | DTC124EUA |
| Q1201 | HN1B04FU |
| D1212 | 1SS302 |
| D1211, D1213 | 1SS355 |
| D1204, D1217 | D1FL40 |
| D1201, D1207 | EC10QS04 |
| D1208 | UDZS5R6(B) |

**COILS AND FILTERS**

| | |
|---|---|
| L1204, L1205 | ATH1112 |
| L1202, L1207 | LFEA100J |
| L1203, L1206 | LFEA470J |

**CAPACITORS**

| | |
|---|---|
| C1214-C1216, C1228-C1230 | ACE1163 |
| C1245 | ACE1173 |
| C1209 (0.1/630V) | ACG1092 |
| C1219, C1231 | ACH1415 |
| C1246 | CEHAT221M25 |
| C1201, C1203, C1207, C1220 | CEHAT470M25 |
| C1223, C1224, C1238, C1239, C1248 | CEHAT470M25 |
| C1212, C1213, C1225, C1240, C1241 | CKSRYB104K16 |
| C1243 | CKSRYB104K16 |
| C1202, C1205, C1206, C1247 | CKSRYF104Z50 |

**RESISTORS**

| | |
|---|---|
| R1230 | ACN1166 |
| R1208, R1260, R1261 | ACN1174 |
| R1255 | ACN1178 |
| R1256 | ACN1198 |
| R1226, R1251 | RS1MMF331J |
| R1235, R1236 | RS2MMF121J |
| Other Resistors | RS1/16S###J |

**OTHERS**

| | |
|---|---|
| KN1201-KN1205, KN1208 | ANK-142 |
| KN1210-KN1212, KN1214 | ANK-142 |
| GROUND PLATE | |
| CN1201 CONNECTOR | B12B-EH |

**[50 X D-DCON BLOCK]**

**SEMICONDUCTORS**

| Mark No. | Description | Part No. |
|---|---|---|
| | IC1402 | MIP2E3DMU |
| | IC1401, IC1403 | PS2701A-1(L) |
| | IC1404 | TA76431FR |
| | Q1401 | 2SA1576A |
| | Q1402 | 2SC4116 |
| | D1406, D1409, D1410 | D1FK70 |
| | D1407, D1408 | D1FL20U(S) |
| | D1405 | U1ZB330 |
| | D1401, D1403 | UDZS5R6(B) |

**COILS AND FILTERS**

| | |
|---|---|
| ⚠T1401 | ATK1153 |
| L1401 | LFEA101J |

**CAPACITORS**

| | |
|---|---|
| C1401, C1402 | ACH1361 |
| C1404 | CEHAT101M16 |
| C1405 | CEHAT101M25 |
| C1409 | CEHAT331M16 |
| C1403, C1407, C1408, C1411 | CKSRYB104K16 |
| C1406 | CKSRYF104Z50 |

**RESISTORS**

| | |
|---|---|
| R1405, R1406, R1408-R1410, R1414 | RS1/10S3602F |
| R1420 | RS1/16S1101F |
| R1403 | RS1/16S2702F |
| R1401, R1404 | RS1/16S4701F |
| R1417 | RS1/16S7500F |
| VR1401 | CCP1390 |
| Other Resistors | RS1/16S###J |

**OTHERS**

| | |
|---|---|
| ⚠1001 DRIVE SIRICON SHEET | AEH1062 |
| 1001 PLATE X | ANG2664 |
| 1001 DRIVE HEATSINK A | ANH1613 |
| 1001 SCREW | PMZ30P080FTC |
| 1002 SCREW | PMB30P060FNI |

## 50 Y DRIVE ASSY

**OTHERS**

| | | |
|---|---|---|
| 2002 | CARD SPACER | AEC1957 |
| ⚠2001 | DRIVE SIRICON SHEET | AEH1062 |
| 2001 | PLATE Y | ANG2557 |
| 2001 | DRIVE HEATSINK A | ANH1613 |
| 2001 | SCREW | PMZ30P080FTC |
| 2002 | SCREW | PMB30P060FNI |

**[50 Y LOGIC BLOCK]**

**SEMICONDUCTORS**

| | |
|---|---|
| IC2002 | TC74ACT540FT |
| IC2001, IC2003 | TC74ACT541FT |
| IC2005, IC2006 | TC74VHC08FT |
| IC2004 | TC74VHC541FT |

**CAPACITORS**

| | |
|---|---|
| C2001 | CEHAT470M16 |
| C2007 | CKSRYB471K50 |
| C2002-C2006, C2008 | CKSSYB104K10 |

**RESISTORS**

| | |
|---|---|
| R2045 | RAB4C0R0J |
| R2055 | RAB4C100J |

| Mark No. | Description | Part No. |
|---|---|---|
| | R2025 | RAB4C101J |
| | R2018, R2019 | RAB4C102J |
| | R2002, R2004, R2013-R2015 | RAB4C470J |
| | R2005, R2006, R2012, R2016, R2017 | RAB4C472J |
| | Other Resistors | RS1/16S###J |
| | **OTHERS** | |
| | CN2001 50P CONNECTOR | AKM1201 |
| | **[50 Y SCAN BLOCK]** | |
| | **SEMICONDUCTORS** | |
| | IC2101, IC2103-IC2106, IC2108, IC2109 | HCPL-M611 |
| | IC2111, IC2112 | PST3638UR |
| | IC2102, IC2107 | TC74ACT540FT |
| | **COILS AND FILTERS** | |
| | L2101-L2103 | LFEA100J |
| | **CAPACITORS** | |
| | C2104, C2111 | ACH1413 |
| | C2101, C2107, C2113 | CEHAT221M16 |
| | C2118, C2119 | CKSRYB102K50 |
| | C2116, C2117 | CKSRYB471K50 |
| | C2102, C2103, C2105, C2106 | CKSSYB104K10 |
| | C2108-C2110, C2112, C2114 | CKSSYB104K10 |
| | **RESISTORS** | |
| | R2138, R2141 | RAB4C0R0J |
| | R2121, R2128 | RAB4C472J |
| | Other Resistors | RS1/16S###J |
| | **OTHERS** | |
| | CN2101, CN2102 15P CONNECTOR | AKM1200 |
| | **[50 Y RESONANCE BLOCK]** | |
| | **SEMICONDUCTORS** | |
| | IC2211 | BA10393F |
| | IC2201, IC2202 | TND506MD |
| | Q2213 | 2SC4081 |
| | Q2205, Q2206, Q2208, Q2209 | 2SK3555-01MR |
| | Q2202, Q2203, Q2212 | 2SK3592-01S |
| | Q2201, Q2204, Q2207, Q2210 | QSZ2 |
| | D2209, D2223 | 1SS302 |
| | D2228, D2229, D2232, D2233 | 1SS355 |
| | D2202-D2205, D2207, D2208 | D1FL40 |
| | D2212-D2214, D2216-D2219 | D1FL40 |
| | D2221, D2222 | D1FL40 |
| | D2201, D2206, D2211, D2220, D2225 | RF2001T3D |
| | D2230 | RF2001T3D |
| | D2210, D2224 | UDZS16(B) |
| | **COILS AND FILTERS** | |
| | L2203, L2205 | ATH1119 |
| | L2202 | ATH1155 |
| | L2204 | ATH1156 |
| | L2201 | LFEA470J |
| | **CAPACITORS** | |
| | C2212-C2214, C2226, C2227 | ACE1175 |
| | C2211, C2224 (100P/630V) | ACG1104 |
| | C2210, C2223 (0.22UF/250V) | ACG1112 |
| | C2238, C2240 (150P/630V) | ACG1120 |

| Mark No. | Description | Part No. |
|---|---|---|
| | C2202, C2205, C2216, C2217 | CCSRCH331J50 |
| | C2236 | CEHAT2R2M50 |
| | C2203, C2218 | CKSRYB105K6R3 |
| | C2230, C2232, C2233, C2235 | CKSSYB104K10 |
| | C2201, C2208, C2215, C2219 | CKSYB105K25 |
| | **RESISTORS** | |
| | R2240, R2241 | RS1/10S1003F |
| | R2244-R2247 | RS1/10S100J |
| | R2260, R2261 | RS1/10S220J |
| | R2205, R2211, R2213, R2220, R2221 | RS1/10S2R2J |
| | R2253, R2265 | RS1/10S2R2J |
| | R2234 | RS1/16S1202F |
| | R2235 | RS1/16S3301F |
| | R2233 | RS1/16S5601F |
| | R2242 | RS1/16S8201F |
| | R2215, R2230 | RS1MMF101J |
| | R2256, R2259 | RS2MMF220J |
| | VR2201-VR2204 | CCP1390 |
| | Other Resistors | RS1/16S###J |
| | **OTHERS** | |
| | 2201 DRIVE HEATSINK | ANH1628 |
| | 2201 SCREW | PMH30P080FTC |
| | **[50 Y SUS BLOCK]** | |
| | **SEMICONDUCTORS** | |
| | IC2302 | HCPL-M611 |
| | IC2305 | NJM2872F05 |
| | IC2303, IC2307 | STK795-513A |
| | IC2310 | TC7SH04FU |
| | IC2301, IC2304 | TND301S |
| | IC2311 | TND307TD |
| | Q2313 | 2SA1727 |
| | Q2310 | 2SC4081 |
| | Q2303 | 2SD1898 |
| | Q2302 | 2SK3325-Z |
| | Q2312 | 2SK3403 |
| | Q2309 | HN1B04FU |
| | D2322 | 1SS302 |
| | D2312, D2325 | 1SS355 |
| | D2324 | D1FL40 |
| | D2319 | EC10QS04 |
| | D2320 | RF051UA1D |
| | D2323 | UDZS16(B) |
| | D2306 | UDZS5R6(B) |
| | **COILS AND FILTERS** | |
| | L2306, L2307 | ATH1112 |
| | L2304, L2309 | LFEA100J |
| | L2308 | LFEA101J |
| | L2301, L2302, L2305 | LFEA470J |
| | **CAPACITORS** | |
| | C2309-C2311, C2327, C2329, C2330 | ACE1163 |
| | C2314 | ACE1165 |
| | C2346 (0.33/100V) | ACG1118 |
| | C2336 | ACH1393 |
| | C2316, C2331 | ACH1415 |
| | C2303, C2342 | ACH1416 |
| | C2343 | CCSRCH102J50 |
| | C2306 | CEHAT221M25 |
| | C2308, C2324, C2339, C2340, C2349 | CEHAT470M16 |

| Mark No. | Description | Part No. |
|---|---|---|
| | C2304, C2320, C2338, C2348 | CEHAT470M25 |
| | C2305, C2322, C2323, C2325, C2341 | CKSRYB104K16 |
| | C2347 | CKSRYB105K6R3 |
| | C2301, C2307, C2344 | CKSRYF104Z50 |

**RESISTORS**

| | | |
|---|---|---|
| | R2332 | ACN1166 |
| | R2364, R2365 | ACN1174 |
| | R2367 | RS1/10S0R0J |
| | R2368 | RS1/10S151J |
| | R2309 | RS1MMF132J |
| | R2310, R2311 | RS1MMF472J |
| | R2312, R2313, R2322, R2325 | RS3LMF100J |
| | R2348, R2352, R2358, R2359 | RS3LMF1R8J |
| | Other Resistors | RS1/16S###J |

**OTHERS**

| | | |
|---|---|---|
| | KN2301-KN2305, KN2310, KN2312 | ANK-142 |
| | KN2314, KN2316 GROUND PLATE | ANK-142 |
| | CN2301 CONNECTOR | B11B-EH |

**[50 Y D-DCON BLOCK]**

**SEMICONDUCTORS**

| | | |
|---|---|---|
| | IC2406 | BA10358F |
| | IC2401 | MIP2E3DMC |
| | IC2402-IC2405, IC2407, IC2409 | PS2701A-1(L) |
| | IC2410-IC2412 | TA76431FR |
| | Q2402, Q2407 | 2SA1037K |
| | Q2410 | 2SA1163 |
| | Q2417 | 2SA2005 |
| | Q2405 | 2SC2713 |
| | Q2411-Q2413, Q2416, Q2419 | 2SC4081 |
| | Q2403 | 2SD1664 |
| | Q2401, Q2404 | 2SD1898 |
| | Q2415 | HN1C01FU |
| | D2430 | 1SS301 |
| | D2410, D2419, D2436 | 1SS302 |
| | D2409, D2418 | 1SS355 |
| | D2402 | D1FK70 |
| | D2404-D2407 | D1FL20U(S) |
| | D2414 | D1FL40 |
| | D2403 | EC8FS6 |
| | D2401 | U1ZB330 |
| | D2412, D2413, D2422 | UDZS15(B) |
| | D2437, D2438 | UDZS33(B) |
| | D2432 | UDZS4R3(B) |
| | D2423, D2431 | UDZS5R6(B) |

**COILS AND FILTERS**

| | | |
|---|---|---|
| ⚠ | T2402 | ATK1156 |
| ⚠ | T2403 | ATK1157 |
| ⚠ | T2401 | ATK1158 |
| | L2402 | LFEA100J |
| | L2401 | LFEA101J |
| | L2403 | LFEA470J |

**CAPACITORS**

| | | |
|---|---|---|
| | C2406 | ACH1360 |
| | C2401 | ACH1361 |
| | C2427 | CEHAT100M50 |
| | C2403 | CEHAT101M16 |
| | C2405, C2407, C2417 | CEHAT101M25 |
| | C2414 | CEHAT221M16 |
| | C2410 | CEHAT221M25 |
| | C2411 | CEHAT331M25 |
| | C2420 | CEHAT470M2A |
| | C2409, C2419 | CKSRYB103K50 |
| | C2402, C2412, C2413, C2423, C2425 | CKSRYB104K16 |
| | C2434-C2436, C2441-C2444 | CKSRYB104K16 |
| | C2415, C2421, C2428 | CKSRYB105K6R3 |
| | C2404, C2408, C2416, C2418, C2426 | CKSRYF104Z50 |
| | C2429 | CKSRYF104Z50 |

**RESISTORS**

| | | |
|---|---|---|
| | R2429 | ACN1225 |
| | R2435, R2439 | RS1/10S2202F |
| | R2402-R2404 | RS1/10S3902F |
| | R2442 | RS1/16S1201F |
| | R2468 | RS1/16S1202F |
| | R2424 | RS1/16S2001F |
| | R2420, R2427, R2438 | RS1/16S2201F |
| | R2451 | RS1/16S2202F |
| | R2467 | RS1/16S3301F |
| | R2452, R2453 | RS1/16S3302F |
| | R2457-R2460 | RS1/16S4701F |
| | R2506 | RS3LMF151J |
| | VR2401, VR2402 | CCP1390 |
| | Other Resistors | RS1/16S###J |

**OTHERS**

| | | |
|---|---|---|
| | 2401 HEATSINK | ANH1614 |
| | 2401 SCREW | BBZ30P080FTC |

## POWER SUPPLY UNIT

This assembly has no service part.

# 6. ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

## 6.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

### ■ When any of the following assemblies is replaced

| | |
|---|---|
| POWER SUPPLY Unit | No adjustment required |
| DIGITAL VIDEO Assy | Writing of backup data is required.<br>Refer to the "7.1.7 BACKUP WHEN THE MAIN UNIT IS ADJUSTED. " |
| 50 X DRIVE Assy | No adjustment required |
| 50 Y DRIVE Assy | No adjustment required |
| Service Panel | Refer to the "6.4 METHOD FOR REPLACING THE SERVICE PANEL ASSY." |
| Other assemblies | No adjustment required |

### ■ When any part in the following assemblies is replaced

| | |
|---|---|
| POWER SUPPLY Unit | The assembly must be replaced as a unit, and no part replacement is allowed. |
| DIGITAL VIDEO Assy | No adjustment required |
| 50 X DRIVE Assy (IC1101, IC1102) | Refer to the "6.2 DRIVE ASSY ADJUSTMENT." |
| 50 Y DRIVE Assy (IC2201, IC2202) | Refer to the "6.2 DRIVE ASSY ADJUSTMENT." |
| Other assemblies | No adjustment required |

# 6.2 DRIVE ASSY ADJUSTMENT

## ■ How to readjust the timing of the control signals when the DRIVE Assy TND506MD is to be replaced

As there is a large difference in delay time among the individual TND506MDs, timing adjustment has been made on each TND506MD in the unit process. If the TND506MD is replaced on the X or Y Drive Assy, readjustment of the timing of the control signals is required.

| Assy | Replaced IC | Signal for which Readjustment is Required |
|---|---|---|
| X DRIVE | IC1101 | XSUS-U2 & XSUS-D2 |
| | IC1102 | XSUS-U1 & XSUS-D1 |
| Y DRIVE | IC2201 | YSUS-U1 & YSUS-D1 |
| | IC2202 | YSUS-U2 & YSUS-D2 |

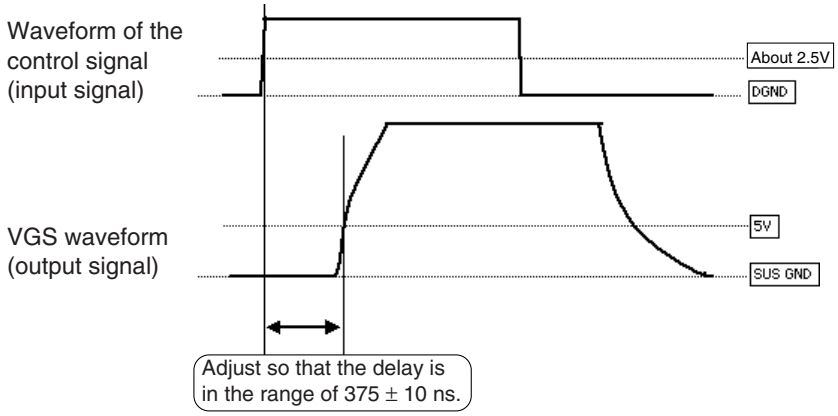
### • How to adjust

Adjust the timing between the startup of the control signals of SUS-U1, SUS-D1, SUS-U2, and SUS-D2 and the startup of the voltage between the gate and the source of the output FET, with the VR resistors that are inserted in the signal line in series. When adjusting, set the unit to Drive OFF mode, and Vsus to 0 V. (For details on how to set to Drive OFF mode, see "7.1.6 Power on/off function for the large-signal system".)

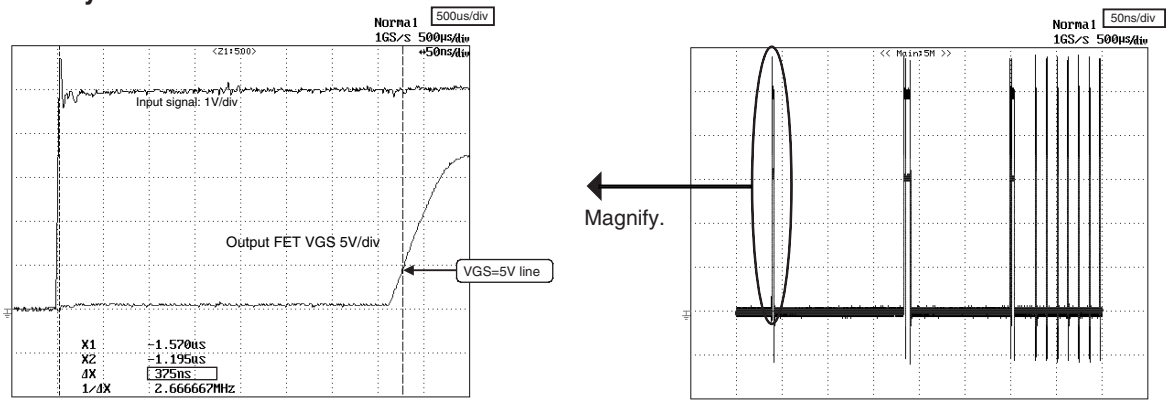
### • Specified values for adjustment and adjustment points

| | | X DRIVE | | | Y DRIVE | | |
|---|---|---|---|---|---|---|---|
| Signal Name | Set Value for Delay Time | Input Signal | Output Signal | Adjustment VR | Input Signal | Output Signal | Adjustment VR |
| SUS-U1 | 375ns ± 10ns | K1005 | Q1108 | VR1103 | K2025 | Q2202 | VR2201 |
| SUS-D1 | 375ns ± 10ns | K1009 | Q1112 | VR1104 | K2027 | Q2205 | VR2202 |
| SUS-U2 | 375ns ± 10ns | K1008 | Q1103 | VR1101 | K2022 | Q2208 | VR2203 |
| SUS-D2 | 375ns ± 10ns | K1006 | Q1105 | VR1102 | K2024 | Q2212 | VR2204 |

**Note:** Connect GND of the probe with DGND (DGND: X Drive Assy: K1020, Y Drive Assy: K2010) for input signal.
For outputting a signal, obtain a signal from the FET gate terminal.
For adjustment, magnify any pulse in the waveform.


Waveform of the control signal (input signal)
About 2.5V
DGND
VGS waveform (output signal)
5V
SUS GND
Adjust so that the delay is in the range of 375 ± 10 ns.

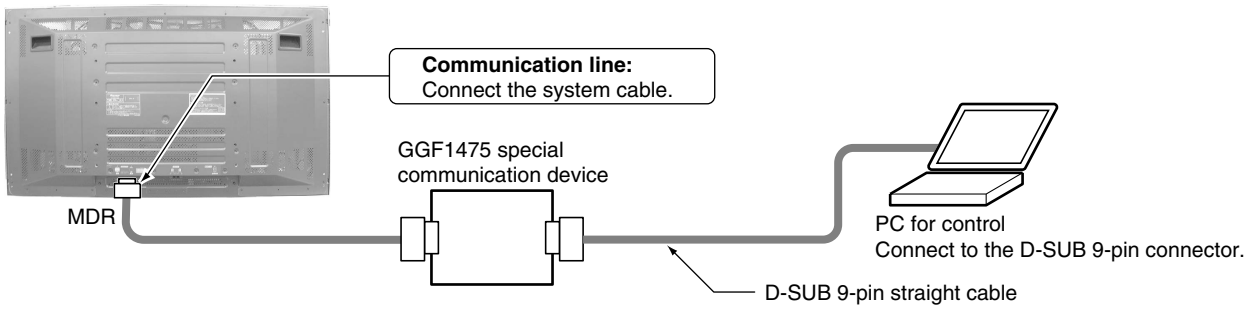
### • Actually measured waveforms



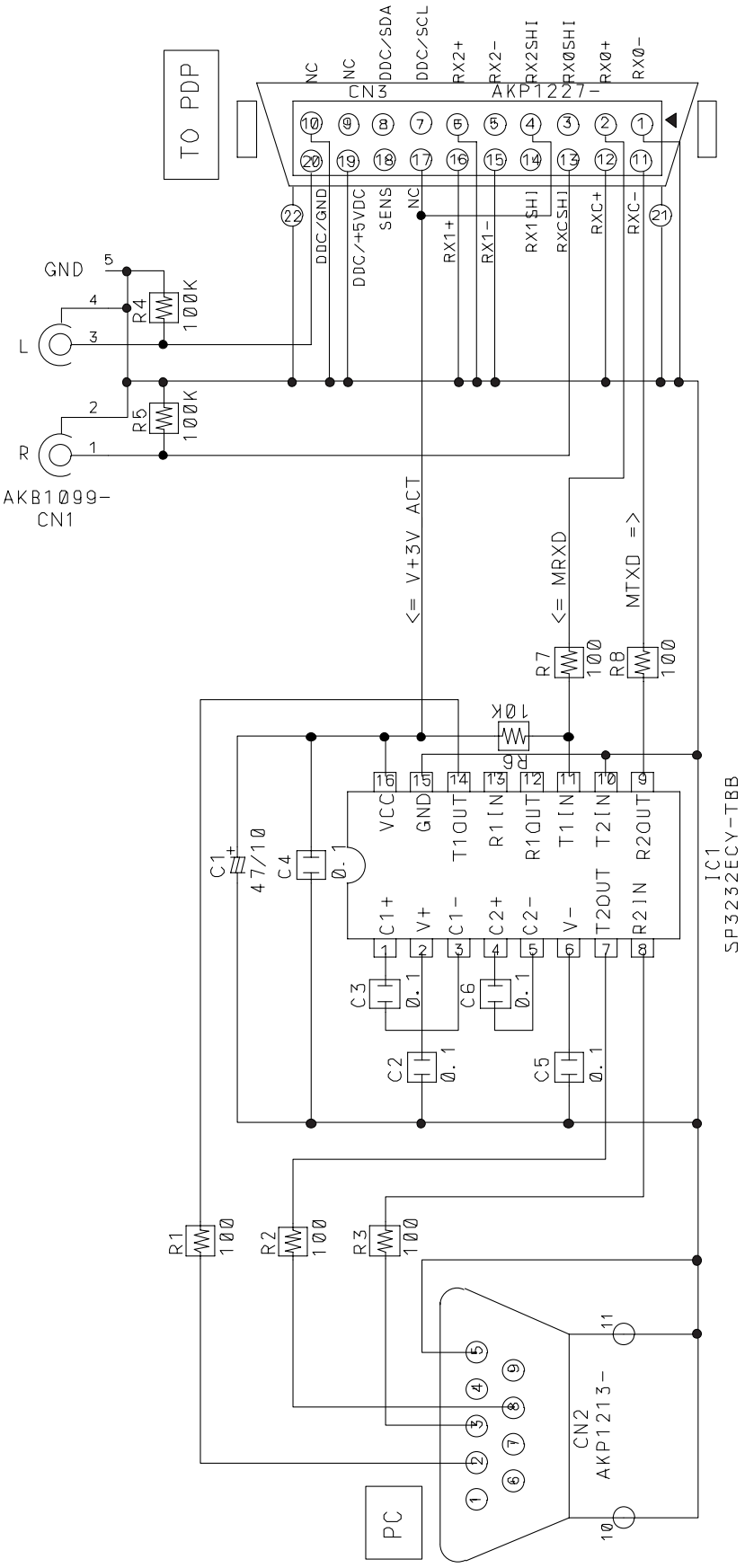
# 6.3 COMMAND

## 6.3.1 RS232C COMMAND

### ■ Connection



## • Schematic diagram of the special communication device



## • RS-232C Commands for the module microcomputer

| Command Name | | Function | Validity of direct numeric input | | |
|---|---|---|---|---|---|
| | | | Validity | Lower limit | Upper limit |
| [A] | | | | | |
| ABL | ABL ADJUSTMENT | Adjusting the upper limit of the power | ○ | 000 | 255 |
| ABN | PEAK ABL NO | Peak ABL function OFF | | | |
| ABY | PEAK ABL YES | Peak ABL function ON | | | |
| AMN | AUDIO MUTE NO | Turning off the audio muting | | | |
| AMY | AUDIO MUTE YES | Turning on the audio muting | | | |
| [B] | | | | | |
| BAL | BALANCE ADJUSTMENT | Adjusting the audio balance | ○ | 98 | 158 |
| BAS | BASS ADJUSTMENT | Adjusting the audio bass | ○ | 121 | 135 |
| BCP | BACKUP COPY | Copying the backup data in the EEPROM | | | |
| [C] | | | | | |
| CHM | CLEAR HOUR METER | Clearing data of the hour meter | | | |
| CPD | CLEAR POWER DOWN | Clearing power-down information | | | |
| CPM | CLEAR PLUSE METER | Clearing data of the pulse meter | | | |
| CSD | CLEAR SHUT DOWN | Clearing shutdown information | | | |
| [D] | | | | | |
| DRF | DRIVE OFF | Driving off | | | |
| DRN | DRIVE ON | Driving on | | | |
| [F] | | | | | |
| F50 | FREQENCY VIDEO 50Hz | Setting the frequency in Mask mode to 50 Hz (VIDEO) | | | |
| F60 | FREQENCY VIDEO 60Hz | Setting the frequency in Mask mode to 60 Hz (VIDEO) | | | |
| F61 | FREQENCY PC 60Hz | Setting the frequency in Mask mode to 60 Hz (PC) | | | |
| F70 | FREQENCY PC 70Hz | Setting the frequency in Mask mode to 70 Hz (PC) | | | |
| F72 | FREQENCY VIDEO 72Hz | Setting the frequency in Mask mode to 72 Hz (VIDEO) | | | |
| F75 | FREQENCY 75Hz | Setting the frequency in Mask mode to 75 Hz (VIDEO) | | | |
| FAJ | FINISH ADJUSTMENT | Determining the flag of the DIGITAL VIDEO Assy adjustment in "adjustment is completed" | | | |
| FCN | FOCUS NO | Turning the FOCUS function off | | | |
| FCY | FOCUS YES | Turning the FOCUS function on | | | |
| [G] | | | | | |
| GAJ | GET ADJUSTMENT | Obtaining various adjustment values | | | |
| GNP | GET NUMBER PANEL | Obtaining the serial no. of the panel | | | |
| GPD | GET POWER-DOWN | Obtaining the power-down-point log | | | |
| GPW | GET PANEL WHITE BALANCE | Obtaining the panel white-balance adjustment values | | | |
| GS1 | GET STATUS 1 | Obtaining information on the unit, such as the software version | | | |
| GS2 | GET STATUS 2 | Obtaining information on the status of the unit, such as the temperature | | | |
| GSD | GET SHUT DOWN | Obtaining information on shutdown | | | |
| [M] | | | | | |
| M00 | MASK MODE 0 | Turning the Mask function off | | | |
| M01 | MASK MODE 1 | White raster (change in luminance level) | | | |
| M02 | MASK MODE 2 | White raster--zigzag, exact reverse--scan--gray--white raster | | | |
| M03 | MASK MODE 3 | HL--zigzag, exact reverse--scan--gray--white raster | | | |
| M04 | MASK MODE 4 | White raster--zigzag, exact reverse--scan--gray--white raster | | | |
| M10 | MASK MODE 10 | H ramp (slant 1) | | | |
| M11 | MASK MODE 11 | H ramp (slant 4) | | | |
| M12 | MASK MODE 12 | H ramp (slant 1 shifting) | | | |
| M13 | MASK MODE 13 | H ramp (slant 4 shifting) | | | |
| M14 | MASK MODE 14 | V ramp (slant 1) | | | |
| M15 | MASK MODE 15 | Slanting ramp | | | |
| M20 | MASK MODE 20 | Window (for WB adjustment, Hi = 870, Lo = 102) | | | |
| M21 | MASK MODE 21 | Window (for WB adjustment, Hi = 1023, Lo = 102) | | | |
| M22 | MASK MODE 22 | Window (for measuring the peak luminance during WB adjustment, Hi = 1023) | | | |
| M23 | MASK MODE 23 | Window (for measuring the peak luminance, Hi = 1023, 4%) | | | |
| M24 | MASK MODE 24 | Window (for measuring the peak luminance, Hi = 1023, 1.25%) | | | |
| M25 | MASK MODE 25 | Window (vertical line with 1/7-width for measuring the stress) | | | |
| M26 | MASK MODE 26 | Window (magenta, green, and stripe for check) | | | |
| M27 | MASK MODE 27 | Window (green,magenta, and stripe for check) | | | |
| M28 | MASK MODE 28 | Window (black & white [1 x 8], checker, for EMG check) | | | |
| M29 | MASK MODE 29 | Window (for WB adjustment, magenta = 512, yellow = 512) | | | |
| M2E | MASK MODE 2E | Wiper for erasing afterimage | | | |
| M2F | MASK MODE 2F | Mask for warning of cable disconnection | | | |
| M30 | MASK MODE 30 | ColorBar | | | |
| M31 | MASK MODE 31 | Slanted lines (for checking cable disconnection) | | | |
| M51 | MASK MODE 51 | Raster-white | | | |
| M52 | MASK MODE 52 | Raster-red | | | |
| M53 | MASK MODE 53 | Raster-green | | | |
| M54 | MASK MODE 54 | Raster-blue | | | |
| M55 | MASK MODE 55 | Raster-black | | | |
| M56 | MASK MODE 56 | Raster-cyan 1023 | | | |
| M57 | MASK MODE 57 | Raster-magenta 1023 | | | |

| Command Name | | Function | Validity of direct numeric input | | |
|---|---|---|---|---|---|
| | | | Validity | Lower limit | Upper limit |
| [M] | | | | | |
| M58 | MASK MODE 58 | Raster-yellow 1023 | | | |
| M59 | MASK MODE 59 | Raster-cyan 274 | | | |
| M60 | MASK MODE 60 | Raster-flesh color_50 | | | |
| M61 | MASK MODE 61 | Raster-light purple_50 | | | |
| M62 | MASK MODE 62 | Raster-sky blue_50 | | | |
| M63 | MASK MODE 63 | Raster-red 779 | | | |
| M64 | MASK MODE 64 | Raster-cyan 218 | | | |
| M65 | MASK MODE 65 | Raster-cyan 448 | | | |
| M66 | MASK MODE 66 | Raster-flesh color_43 | | | |
| M67 | MASK MODE 67 | Raster-red 640 | | | |
| M68 | MASK MODE 68 | Raster-magenta 98 | | | |
| M69 | MASK MODE 69 | Raster-sky blue 1_43 | | | |
| M70 | MASK MODE 70 | Raster-sky blue 2_43 | | | |
| M71 | MASK MODE 71 | Raster-light purple_43 | | | |
| M72 | MASK MODE 72 | Raster-blue 960 | | | |
| M73 | MASK MODE 73 | Raster-yellow 512 | | | |
| M74 | MASK MODE 74 | Raster-gray 512 (reservation) | | | |
| MTN | MUTE NO | Canceling panel muting | | | |
| MTY | MUTE YES | Panel muting | | | |
| [N] | | | | | |
| NGN | NG NO | SD function off | | | |
| NMN | NEGATIVE MODE NO | Canceling negative-positive inversion display | | | |
| NMY | NEGATIVE MODE YES | Negative-positive inversion display | | | |
| [P] | | | | | |
| PBH | PANEL BLUE HIGH | Panel white-balance adjustment: Blue highlight | ○ | 000 | 511 |
| PBL | PANEL BLUE LOW | Panel white-balance adjustment: Blue low light | ○ | 000 | 999 |
| PCN | PC RGB NO | Setting input-signal type to video | | | |
| PCY | PC RGB YES | Setting input-signal type to PC | | | |
| PDN | POWER DOWN NO | The PD signal is not passed through the POWER SUPPLY Assy. | | | |
| PDY | POWER DOWN YES | The PD signal is passed through the POWER SUPPLY Assy. | | | |
| PGH | PANEL GREEN HIGH | Panel white-balance adjustment: Green highlight | ○ | 000 | 511 |
| PGL | PANEL GREEN LOW | Panel white-balance adjustment: Green low light | ○ | 000 | 999 |
| PLA | BRIGHT ENHANCE A | Center luminance-compensation function on (no correspondence with APL) | | | |
| PLB | BRIGHT ENHANCE B | Center luminance-compensation function on (in correspondence with APL, pattern 1) | | | |
| PLC | BRIGHT ENHANCE C | Center luminance-compensation function on (in correspondence with APL, pattern 2) | | | |
| PLN | BRIGHT ENHANCE NO | Center luminance-compensation function off | | | |
| PMB | PANEL MAIN BRIGHTNESS | Panel white-balance adjustment: Main brightness | | 000 | 999 |
| PMC | PANEL MAIN CONTRAST | Panel white-balance adjustment: Main contrast | | 000 | 511 |
| POF | POWER OFF | Power off | | | |
| PON | POWER ON | Power on | | | |
| PRH | PANEL RED HIGH | Panel white balance adjustment-red highlight | ○ | 000 | 511 |
| PRL | PANEL RED LOW | Panel white-balance adjustment: Red low light | ○ | 000 | 999 |
| [S] | | | | | |
| SCN | SYSTEM CABLE NO | Prohibiting monitoring of cable-disconnection detection | | | |
| SCY | SYSTEM CABLE YES | Permitting monitoring of cable-disconnection detection | | | |
| SPN | SCAN PROTECT NO | SCAN IC protection process OFF | | | |
| SPY | SCAN PROTECT YES | SCAN IC protection process ON | | | |
| SRN | SRS NO | SRS function off | | | |
| SRY | SRS YES | SRS function on | | | |
| [T] | | | | | |
| TBN | TRUBASS NO | TruBass function off | | | |
| TBY | TRUBASS YES | TruBass function on | | | |
| TRE | TREBLE ADJUSTMENT | Audio treble adjustment | ○ | 121 | 135 |
| [U] | | | | | |
| UAJ | UN-ADJUSTMENT | Determining the flag for the DIGITAL VIDEO Assy adjustment in "not adjusted" | | | |
| [V] | | | | | |
| VOF | Vofs ADJUSTMENT | Vofs voltage reference-value adjustment | ○ | 000 | 255 |
| VOL | VOLUME | Audio volume adjustment | ○ | 000 | 060 |
| VSU | Vsus ADJUSTMENT | Vsus voltage reference-value adjustment | ○ | 000 | 255 |
| [W] | | | | | |
| WA1 | WB APL 1 | Setting the APL-interlocking pattern for white balance to 1. | | | |
| WA2 | WB APL 2 | Setting the APL-interlocking pattern for white balance to 2. | | | |
| WA3 | WB APL 3 | Setting the APL-interlocking pattern for white balance to 3. | | | |
| WA4 | WB APL 4 | Setting the APL-interlocking pattern for white balance to 4. | | | |
| WAN | WB APL NO | Setting the APL-interlocking for white balance to OFF. | | | |
| WAY | WB APL YES | Setting the APL-interlocking for white balance to ON. | | | |
| WIN | WB INITIALIZE NO | Panel White-Balance Initialization mode OFF | | | |
| WIY | WB INITIALIZE YES | Panel White-Balance Initialization mode ON | | | |

| Command Name | | Function | Validity of direct numeric input | | |
|---|---|---|---|---|---|
| | | | Validity | Lower limit | Upper limit |
| [X] | | | | | |
| XD1 | XSUS-D-1 | XSUS-D-1 adjustment | ○ | 000 | 255 |
| XD2 | XSUS-D-2 | XSUS-D-2 adjustment | ○ | 000 | 255 |
| XU1 | XSUS-U-1 | XSUS-U-1 adjustment | ○ | 000 | 255 |
| XU2 | XSUS-U-2 | XSUS-U-2 adjustment | ○ | 000 | 255 |
| [Y] | | | ○ | 000 | 255 |
| YD1 | YSUS-D1-1 | YSUS-D1-1 adjustment | | | |
| YD2 | YSUS-D1-2 | YSUS-D1-2 adjustment | ○ | 000 | 255 |
| YD3 | YSUS-D2-1 | YSUS-D2-1 adjustment | ○ | 000 | 255 |
| YD4 | YSUS-D2-2 | YSUS-D2-2 adjustment | ○ | 000 | 255 |
| YU1 | YSUS-U-1 | YSUS-U-1 adjustment | ○ | 000 | 255 |
| YU2 | YSUS-U-2 | YSUS-U-2 adjustment | ○ | 000 | 255 |

## ■ Command description

| Command | Function |
|---|---|
| GAJ | Obtaining various adjustment values |
| GNP | Obtaining serial number of the panel side |
| GPD | Obtaining power-down-point log |
| GPW | Obtaining panel white-balance adjustment values |
| GS1 | Obtaining information on the unit, such as the software version |
| GS2 | Obtaining information on the status of the unit |
| GSD | Obtaining information on shutdown |

**GAJ: Obtaining data on ABL setting values, electronic-control adjustment values, and drive-system adjustment values**

| Order | Data | Size | Remarks |
|---|---|---|---|
| 1 | ABL table currently used | 3 bytes | AB1 - AB3 |
| 2 | ABL adjustment value | 3 bytes | 000 - 255 |
| 3 | Vsus adjustment value | 3 bytes | 000 - 255 |
| 4 | Vofs adjustment value | 3 bytes | 000 - 255 |
| 5 | X-SUS-U1 adjustment value (XU1) | 3 bytes | 000 - 255 |
| 6 | X-SUS-U2 adjustment value (XU2) | 3 bytes | 000 - 255 |
| 7 | X-SUS-D2 adjustment value (XD2) | 3 bytes | 000 - 255 |
| 8 | X-SUS-D1 adjustment value (XD1) | 3 bytes | 000 - 255 |
| 9 | Y-SUS-U1 adjustment value (YU1) | 3 bytes | 000 - 255 |
| 10 | Y-SUS-U2 adjustment value (YU2) | 3 bytes | 000 - 255 |
| 11 | Y-SUS-D1-2 adjustment value (YD2) | 3 bytes | 000 - 255 |
| 12 | Y-SUS-D1-1 adjustment value (YD1) | 3 bytes | 000 - 255 |
| 13 | Y-SUS-D2-2 adjustment value (YD4) | 3 bytes | 000 - 255 |
| 14 | Y-SUS-D2-1 adjustment value (YD3) | 3 bytes | 000 - 255 |

**Note:** Ignore the 2-byte checksum at the end.

**GNP: Obtaining serial number of the panel side**

| Order | Data | Size | Remarks |
|---|---|---|---|
| 1 | Panel serial number | 15 bytes | Alphanumeric, space, underbar, slash |

**Note:** Ignore the 2-byte checksum at the end.

**GPD: Obtaining power-down-point log on the panel**

| Order | Data | Size | Remarks |
|---|---|---|---|
| 1 | Latest "1st PD" data | 1 byte | 0-D or F |
| 2 | Latest "2nd PD" data | 1 byte | 0-D or F |
| 3 | Data of hour meter for the latest PD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 4 | Data on temperature for the latest PD (TEMP1) | 3 bytes | 000 - 255 |
| 5 | Second latest "1st PD" data | 1 byte | 0-D or F |
| 6 | Second latest "2nd PD" data | 1 byte | 0-D or F |
| 7 | Data of hour meter for the second latest PD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 8 | Data on temperature for the second latest PD (TEMP1) | 3 bytes | 000 - 255 |
| 9 | Third latest "1st PD" data | 1 byte | 0-D or F |
| 10 | Third latest "2nd PD" data | 1 byte | 0-D or F |
| 11 | Data of hour meter for the third latest PD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 12 | Data on temperature for the third latest PD (TEMP1) | 3 bytes | 000 - 255 |
| 13 | Fourth latest "1st PD" data | 1 byte | 0-D or F |
| 14 | Fourth latest "2nd PD" data | 1 byte | 0-D or F |
| 15 | Data of hour meter for the fourth latest PD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 16 | Data on temperature for the fourth latest PD (TEMP1) | 3 bytes | 000 - 255 |
| 17 | Fifth latest "1st PD" data | 1 byte | 0-D or F |
| 18 | Fifth latest "2nd PD" data | 1 byte | 0-D or F |
| 19 | Data of hour meter for the fifth latest PD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 20 | Data on temperature for the fifth latest PD (TEMP1) | 3 bytes | 000 - 255 |
| 21 | Sixth latest "1st PD" data | 1 byte | 0-D or F |
| 22 | Sixth latest "2nd PD" data | 1 byte | 0-D or F |
| 23 | Data of hour meter for the sixth latest PD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 24 | Data on temperature for the sixth latest PD (TEMP1) | 3 bytes | 000 - 255 |
| 25 | Seventh latest "1st PD" data | 1 byte | 0-D or F |
| 26 | Seventh latest "2nd PD" data | 1 byte | 0-D or F |
| 27 | Data of hour meter for the seventh latest PD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 28 | Data on temperature for the seventh latest PD (TEMP1) | 3 bytes | 000 - 255 |
| 29 | Eighth latest "1st PD" data | 1 byte | 0-D or F |
| 30 | Eighth latest "2nd PD" data | 1 byte | 0-D or F |
| 31 | Data of hour meter for the eighth latest PD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 32 | Data on temperature for the eighth latest PD (TEMP1) | 3 bytes | 000 - 255 |

**Notes:** • Ignore the 2-byte checksum at the end.
• For details, see "Description on power-down."

**• Description on power-down**

| Data | Power-down Point |
|---|---|
| 0 | No power-down |
| 1 | Not used (for MR-POWER) |
| 2 | Panel-POWER SUPPLY |
| 3 | SCAN |
| 4 | SCN-5V |
| 5 | Y-DRIVE |
| 6 | Y-DCDC |
| 7 | Y-SUS |
| 8 | ADR |
| 9 | X-DRIVE |
| A | X-DCDC |
| B | X-SUS |
| C | DIG-DCDC |
| D | IC4 |
| E | Reservation |
| F | Power-down point unidentified |

**GPW: Obtaining panel white-balance adjustment values**

| Order | Data | Size | Remarks |
|---|---|---|---|
| 1 | W/B table currently used | 3 bytes | PT1 - PT3 |
| 2 | Main contrast | 4 bytes | 0000 - 0511 |
| 3 | Red contrast of W/B adjustment value | 4 bytes | 0000 - 0511 |
| 4 | Green contrast of W/B adjustment value | 4 bytes | 0000 - 0511 |
| 5 | Blue contrast of W/B adjustment value | 4 bytes | 0000 - 0511 |
| 6 | Main brightness | 4 bytes | 0000 - 1023 |
| 7 | Red brightness of W/B adjustment value | 4 bytes | 0000 - 1023 |
| 8 | Green brightness of W/B adjustment value | 4 bytes | 0000 - 1023 |
| 9 | Blue brightness of W/B adjustment value | 4 bytes | 0000 - 1023 |

**Note:** Ignore the 2-byte checksum at the end.

**GS1: Obtaining information on the unit, such as the software version**

| Order | Data | Size |
|---|---|---|
| 1 | Display data | 3 bytes |
| 2 | Version of the module microcomputer | 4 bytes |
| 3 | IC4-MANTA version | 4 bytes |
| 4 | Sequence version (43VIDEO) | 4 bytes |
| 5 | Sequence version (43PC) | 4 bytes |
| 6 | Sequence version (50VIDEO) | 4 bytes |
| 7 | Sequence version (50PC) | 4 bytes |

**Notes:** • Ignore the 2-byte checksum at the end.
• If a Media Receiver (MR) is connected, the version of the microcomputer inside the MR is displayed at the end. (Refer to the service manual of the Media Receiver.)

**(Reference) GS2: Obtaining information on the status of the unit**

| Order | Data | Size | Remarks |
|---|---|---|---|
| 1 | Notifying that the unit is shifting to Standby mode | 1 byte | 1: OK for shifting to Standby |
| 2 | Whether or not the main unit has been adjusted | 1 byte | 0: Adjusted, 1: Not adjusted |
| 3 | With/without backup for adjustment values | 1 byte | 0: With backup, 1: Without backup |
| 4 | Data on power-down | 2 bytes | 1st byte: 1st PD, 2nd byte: 2nd PD |
| 5 | Data on temperature (TEMP1) | 3 bytes | 000 - 255 |
| 6 | Abnormality in RST2 (power decrease of DC-DC converter) | 1 byte | 0: Normal, 1: SD process completed, 2: In the process of SD warning |
| 7 | IC4 communication failure | 1 byte | 0: Normal, 1: SD process completed, 2: In the process of SD warning |
| 8 | EEPROM communication failure | 1 byte | 0: Normal, 1: SD process completed, 2: In the process of SD warning |
| 9 | Audio failure | 1 byte | 0: Normal, 1: SD process completed, 2: In the process of SD warning |
| 10 | Volume IC communication failure | 1 byte | 0: Normal, 1: SD process completed, 2: In the process of SD warning |
| 11 | Backup ROM communication failure | 1 byte | 0: Normal, 1: SD process completed, 2: In the process of SD warning |
| 12 | Data on temperature (TEMP1) not obtained | 1 byte | 0: Normal, 1: SD process completed, 2: In the process of SD warning |
| 13 | Operational status of panel protection mechanism | 1 byte | 0: Protection mechanism not activated, 1: Protection mechanism activated |
| 14 | Reservation | 2 bytes | ** |
| 15 | Accumulated time of cleared hour-meter (*1) | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 16 | Hour-meter (clearable) (*2) | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |

**Notes:** • Ignore the 2-byte checksum at the end.
• The data expected to be used for service may be "5. Data on temperature" and "15,16. Hour meter".
(*1) Each time hour-meter data are cleared, the accumulated time data are updated. The total for data items 15 and 16 is the total power-on time after shipment. The accumulated time of cleared hour-meter data cannot be cleared.
(*2) The hour-meter data that indicate driving hours of the panel are displayed on the Factory menu. Upon shipment, the data are cleared.

**GSD: Obtaining information on shutdown**

| Order | Data | Size | Remarks |
|---|---|---|---|
| 1 | Latest SD data | 1 byte | 0 - 5 |
| 2 | Latest SD subcategory data | 1 byte | 0 - 3 |
| 3 | Data of hour meter for the latest SD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 4 | Data on temperature for the latest SD (TEMP1) | 3 bytes | 000 - 255 |
| 5 | Second latest SD data | 1 byte | 0 - 5 |
| 6 | Second latest SD subcategory data | 1 byte | 0 - 3 |
| 7 | Data of hour meter for the second latest SD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 8 | Data on temperature for the second latest SD (TEMP1) | 3 bytes | 000 - 255 |
| 9 | Third latest SD data | 1 byte | 0 - 5 |
| 10 | Third latest SD subcategory data | 1 byte | 0 - 3 |
| 11 | Data of hour meter for the third latest SD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 12 | Data on temperature for the third latest SD (TEMP1) | 3 bytes | 000 - 255 |
| 13 | Fourth latest SD data | 1 byte | 0 - 5 |
| 14 | Fourth latest SD subcategory data | 1 byte | 0 - 3 |
| 15 | Data of hour meter for the fourth latest SD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 16 | Data on temperature for the fourth latest SD (TEMP1) | 3 bytes | 000 - 255 |
| 17 | Fifth latest SD data | 1 byte | 0 - 5 |
| 18 | Fifth latest SD subcategory data | 1 byte | 0 - 3 |
| 19 | Data of hour meter for the fifth latest SD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 20 | Data on temperature for the fifth latest SD (TEMP1) | 3 bytes | 000 - 255 |
| 21 | Sixth latest SD data | 1 byte | 0 - 5 |
| 22 | Sixth latest SD subcategory data | 1 byte | 0 - 3 |
| 23 | Data of hour meter for the sixth latest SD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 24 | Data on temperature for the sixth latest SD (TEMP1) | 3 bytes | 000 - 255 |
| 25 | Seventh latest SD data | 1 byte | 0 - 5 |
| 26 | Seventh latest SD subcategory data | 1 byte | 0 - 3 |
| 27 | Data of hour meter for the seventh latest SD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 28 | Data on temperature for the seventh latest SD (TEMP1) | 3 bytes | 000 - 255 |
| 29 | Eighth latest SD data | 1 byte | 0 - 5 |
| 30 | Eighth latest SD subcategory data | 1 byte | 0 - 3 |
| 31 | Data of hour meter for the eighth latest SD | 7 bytes | 1st-5th byte: Hour, 6th-7th byte: Minute |
| 32 | Data on temperature for the eighth latest SD (TEMP1) | 3 bytes | 000 - 255 |

**Notes:** • Ignore the 2-byte checksum at the end.
• For details, see "Description on shutdown".

**• Description of shutdown**

| Data | Factors of shutdown |
|---|---|
| 0 | No abnormality |
| 1 | IC4 |
| 2 | Module microcomputer IIC |
| 3 | Abnormality in RST2 (power decrease of DC-DC converter) |
| 4 | Panel having high temperature |
| 5 | Audio failure (speakers short-circuited) |
| 6 | Reservation |
| 7 | Reservation |
| 8 | Reservation |
| 9 | Reservation |
| A | Reservation |
| B | Reservation |
| C | Reservation |
| D | Reservation |
| E | Reservation |
| F | Reservation |

**• Module microcomputer IIC: Data on SD subcategory**

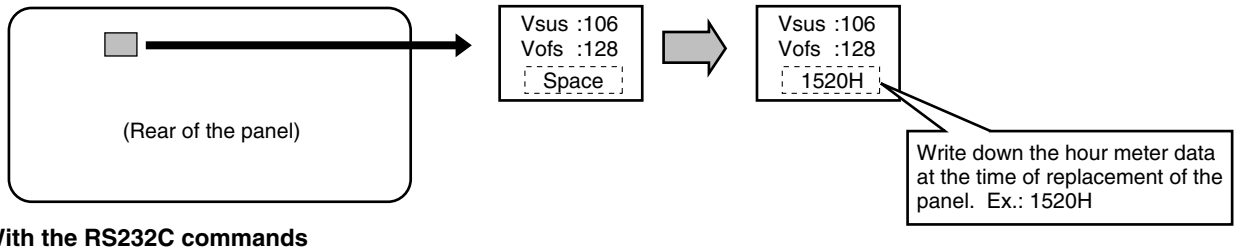
| Data | Factors of shutdown |
|---|---|
| 0 | No subcategory |
| 1 | EEPROM (DIGITAL VIDEO Assy : IC5206) |
| 2 | EEPROM (PANEL IF Assy : IC4002) |
| 3 | Volume IC |
| 4 | Reservation |
| 5 | Reservation |
| 6 | Reservation |
| 7 | Reservation |
| 8 | Reservation |
| 9 | Reservation |
| A | Reservation |
| B | Reservation |
| C | Reservation |
| D | Reservation |
| E | Reservation |
| F | Reservation |

# 6.4 METHOD FOR REPLACING THE SERVICE PANEL ASSY

The following adjustments and operations are required when the Panel Assy is replaced for servicing.

## ■ Adjustments of the Vsus and Vofs voltages

Input the reference adjustment values that are described on the service panel for the Vsus and Vofs voltages, with the RS232C commands or on the Factory menu.

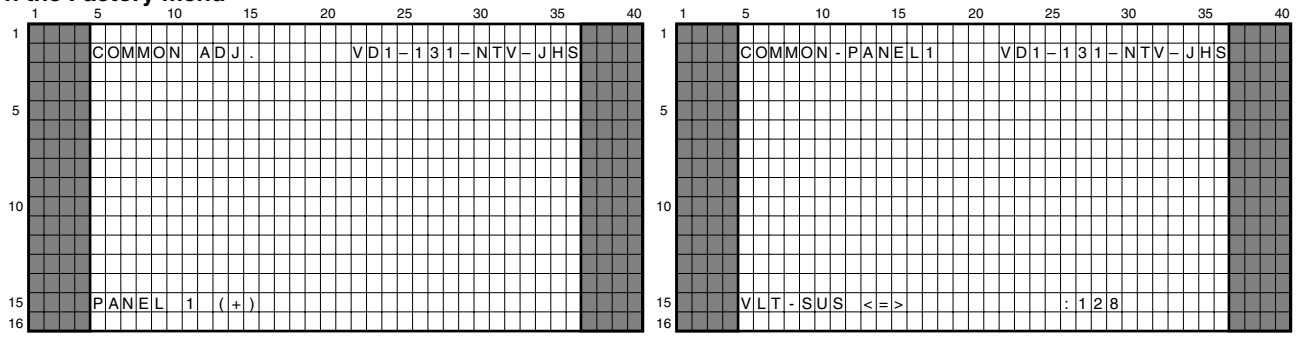



**• With the RS232C commands**

Input the adjustment values described on the label attached on the rear of the panel:

- Reference adjustment of the Vsus voltage : [VSU***] Ex. : [VSU106]
- Reference adjustment of the Vofs voltage : [VOF***] Ex. : [VOF128]

**• On the Factory menu**




Using the MUTE key, select the main item "COMMON ADJ." Select the subitem "PANEL 1" then "VLT-SUS" or "VLT-OFS," using the ▲ or ▼ key and SET key. Enter the value, using the ◄ or ► key.

## ■ Clearing various logs for the panel, such as that for the hour meter

It is necessary to clear various logs, such as that for the hour meter, to match the driving hours of the panel before and after replacement. Write down the hour-meter data at the time of replacement of the panel on the label attached to the rear of the panel.

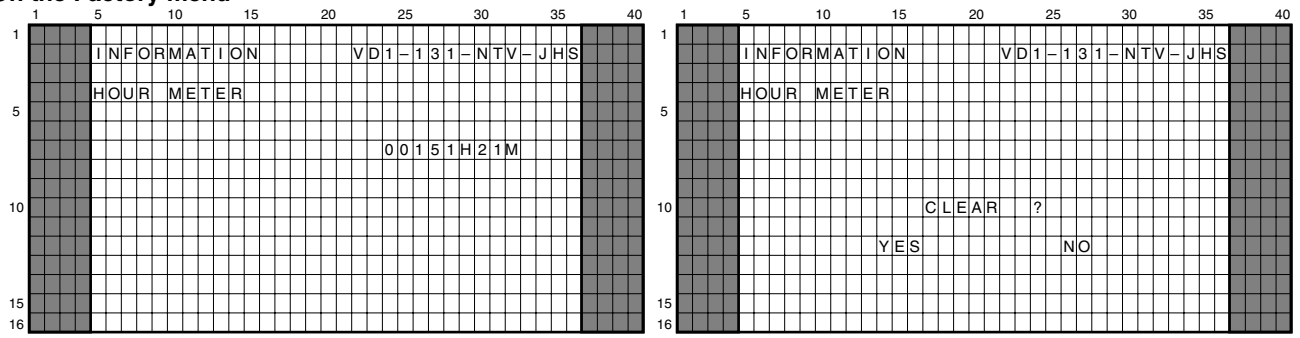
**Notes:** • For clearing, use the RS232C commands or the Factory menu.
• There are two hour meters. Be careful not to mistake the MR hour meter for the hour meter for the panel.

**• With the RS232C commands**

You can obtain the accumulated power-on time data of the product itself with the "GS2" RS232C command. (See "6.3 COMMANDS: Command description".)

1 For clearing the hour meter (for the panel) : CHM
2 For clearing the pulse meter : CPM
3 For clearing the shutdown (SD) log : CSD
4 For clearing the power-down (PD) log : CPD

**• On the Factory menu**

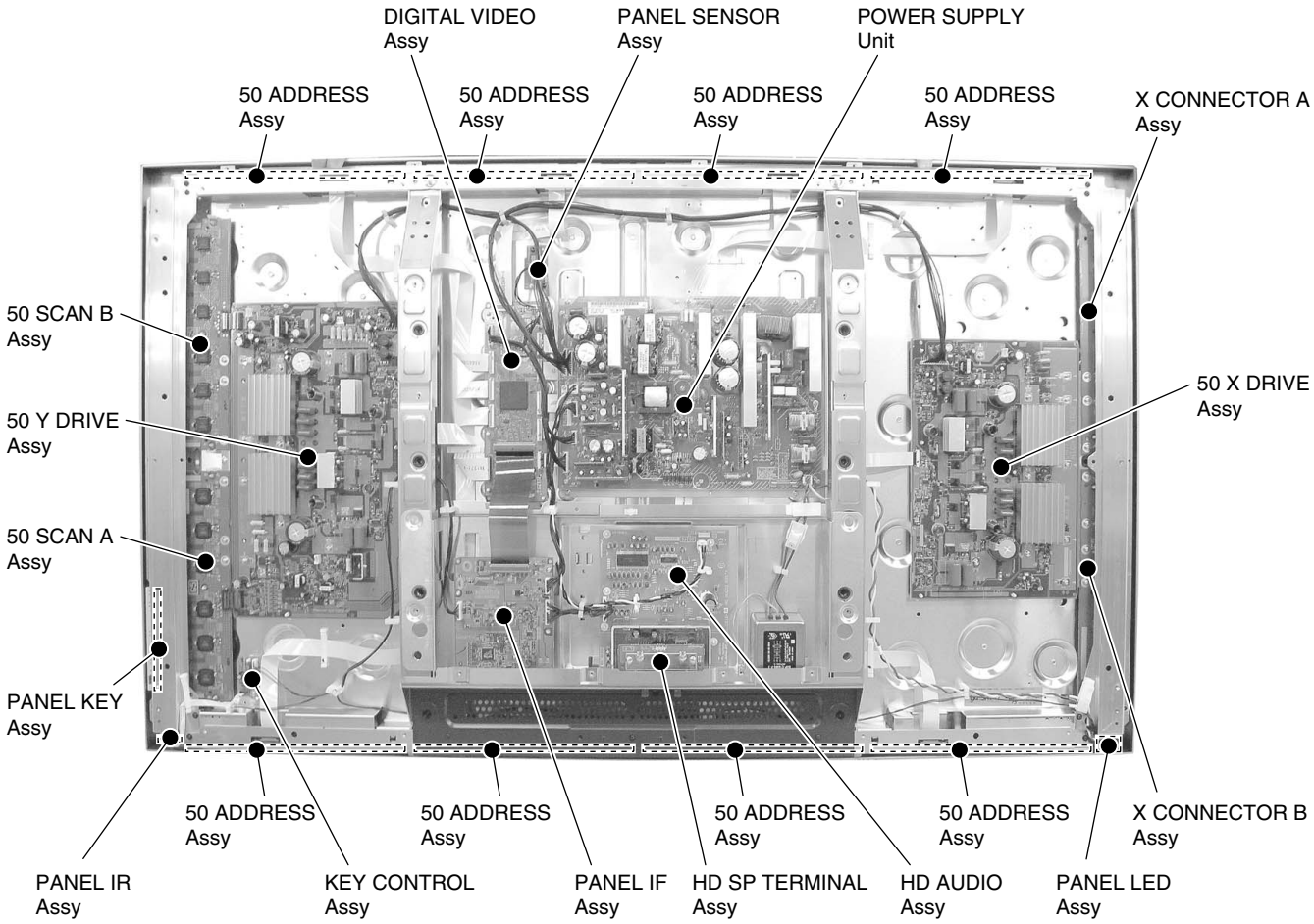



Using the MUTE key, select the main item "INFORMATION." Select the subitem "HOUR METER," using the ▲ or ▼ key and SET key. Clear the hour-meter data.
In the same way, select the subitem "PULSE METER," "PANEL SD," or "PANEL PD" under the main item "INFORMATION" then clear the data.

# 7. GENERAL INFORMATION

## 7.1 DIAGNOSIS

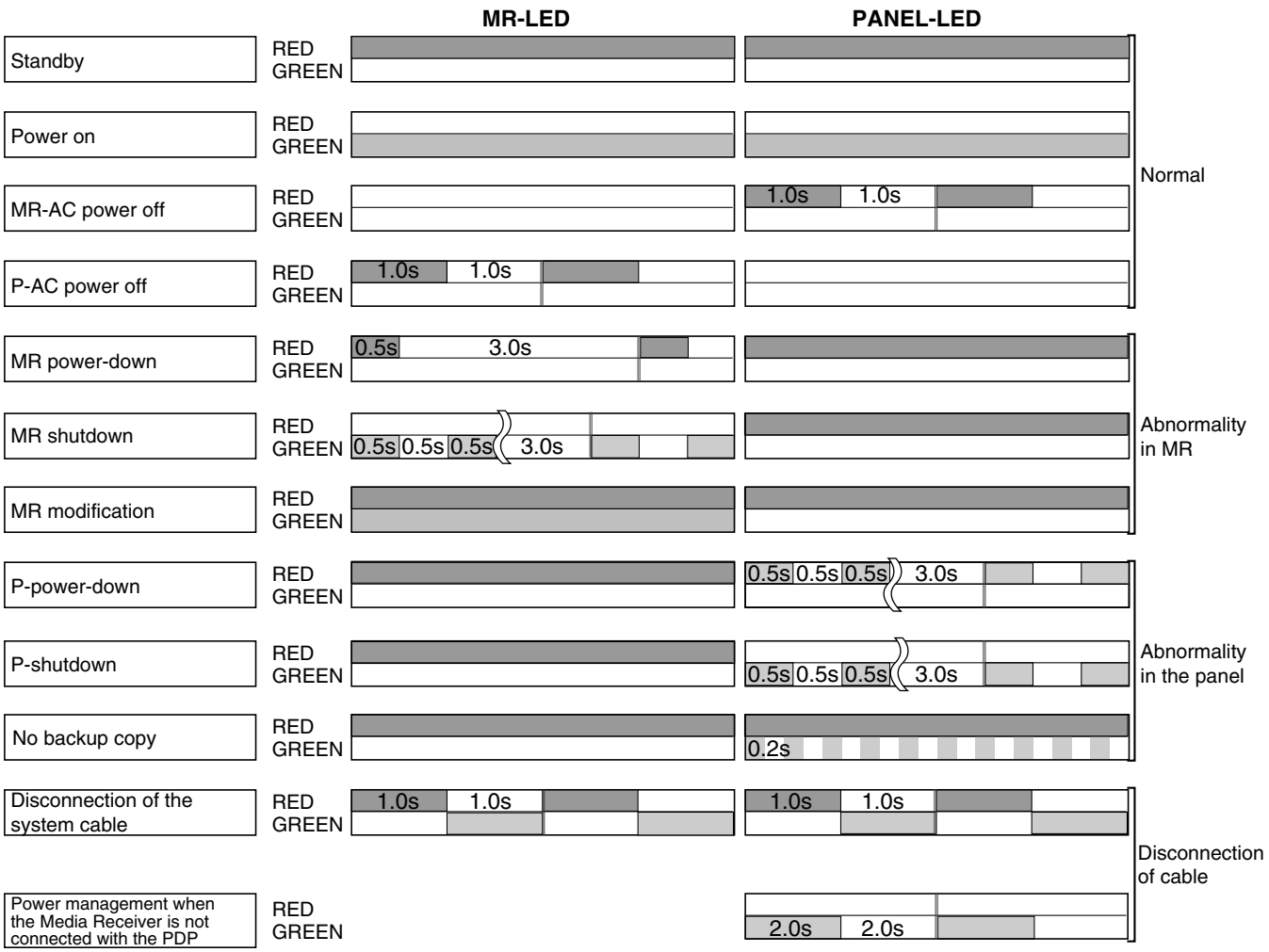
### 7.1.1 PCB LOCATION




● **Rear view**

## 7.1.2 DIAGNOSIS OF SHUTDOWN/POWER-DOWN INDICATED BY LEDS

### • Operation statuses indicated by LEDs




**Note:** "P" stands for panel.

: Lit in red

: Lit in green

: Not lit

## • Identification of locations having abnormality by the number of times the LEDs flash

### ■ On Shutdown and power-down

**Shutdown**

• Operation: When the microcomputer detects any abnormality, it forcibly turns off the unit.
• LED indication: The green LED flashes.

**Power-down**

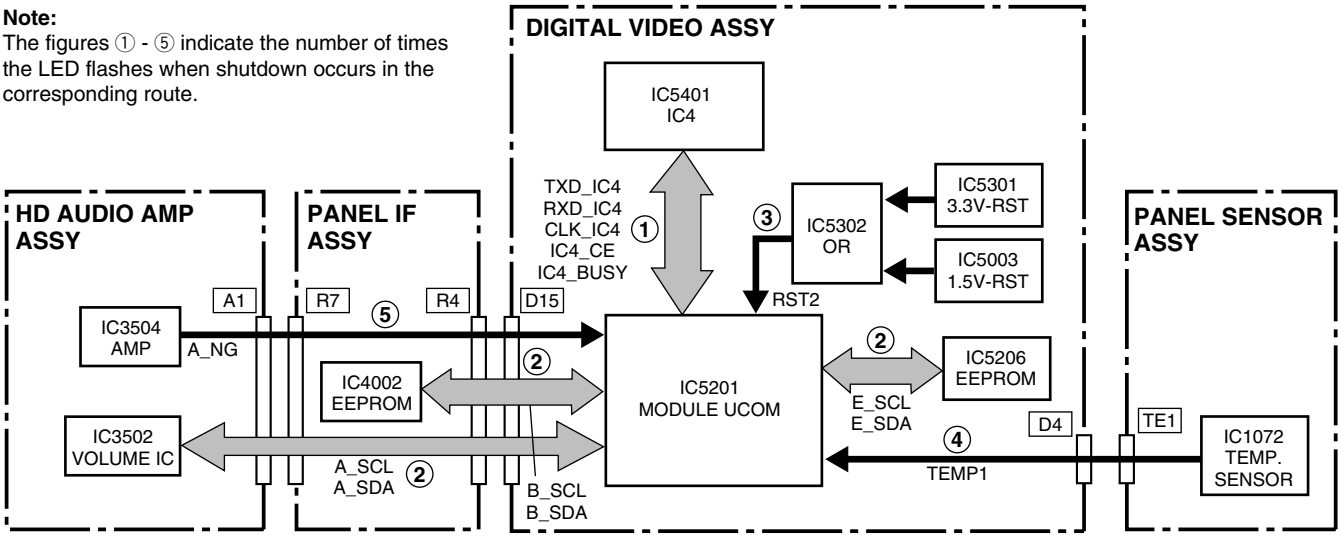
• Operation: When the unit is in emergency status, a protection circuit is activated, and the power is turned off.
• LED indication: The red LED flashes.

| Category | MR-LED | | PANEL-LED | | Content | Unit's operation | Warning indication when the MR is connected |
|---|---|---|---|---|---|---|---|
| | STB | ON | STB | ON | | | |
| SD | Lit | | | 1 time | Communication failure of the panel-drive IC | Immediate shutdown | |
| | Lit | | | 2 times | Communication failure of the module IIC | Immediate shutdown | |
| | Lit | | | 3 times | Power decrease of the digital DC-DC converter | Immediate shutdown | |
| | Lit | | | 4 times | Panel having high temperature | Shutdown 30 seconds after warning | Powering off. Internal temperature is too high. Check temperature around PDP. [SD04] |
| | Lit | | | 5 times | Audio failure | Shutdown 3 seconds after warning | Powering off. Internal protection circuits turns power off. Is the speaker cable short-circuited ? [SD05] |
| | | 6 times | Lit | | Communication failure of the module microcomputer | Immediate shutdown | Is there a short in speaker cable ? |
| | | 7 times | Lit | | Main 3-wire serial communication in failure | Immediate shutdown | |
| | | 8 times | Lit | | Communication failure of the main IIC | Immediate shutdown | |
| | | 9 times | Lit | | Communication failure of the main microcomputer | Immediate shutdown | |
| | | 10 times | Lit | | Fan in failure | Immediate shutdown | |
| | | 11 times | Lit | | MR or unit having higher temperature | Shutdown 30 seconds after warning | Powering off. Internal temperature is too high. Check temperature around media receiver. [SD11] |
| | | 12 times | Lit | | Communication failure of the digital tuner | Immediate shutdown | |
| | | 13 times | Lit | | MR-ASIC power (DC-DC) in failure | Immediate shutdown | |
| PD | 1 time | | Lit | | MR power supply | Immediate power-down | |
| | Lit | | 2 times | | Panel-POWER SUPPLY | Immediate power-down | |
| | Lit | | 3 times | | SCAN | Immediate power-down | |
| | Lit | | 4 times | | SCAN-5V | Immediate power-down | |
| | Lit | | 5 times | | Y-DRIVE | Immediate power-down | |
| | Lit | | 6 times | | Y-DCDC | Immediate power-down | |
| | Lit | | 7 times | | Y-SUS | Immediate power-down | |
| | Lit | | 8 times | | ADDRESS | Immediate power-down | |
| | Lit | | 9 times | | X-DRIVE | Immediate power-down | |
| | Lit | | 10 times | | X-DCDC | Immediate power-down | |
| | Lit | | 11 times | | X-SUS | Immediate power-down | |
| | Lit | | 12 times | | DIGITAL-DCDC | Immediate power-down | |
| | Lit | | 13 times | | IC4 * | Immediate power-down | |
| | Lit | | 15 times | | UNKNOWN ** | Immediate power-down | |

* If the power-down circuit for X-SUS/Y-SUS is activated because output of the drive waveform for IC4 is stopped, IC4-PD is displayed.
** If the unit cannot identify which protection circuit was activated, even if a power-down had been detected, the red LED may flash 15 times.

## • Block diagram of the shutdown signal system

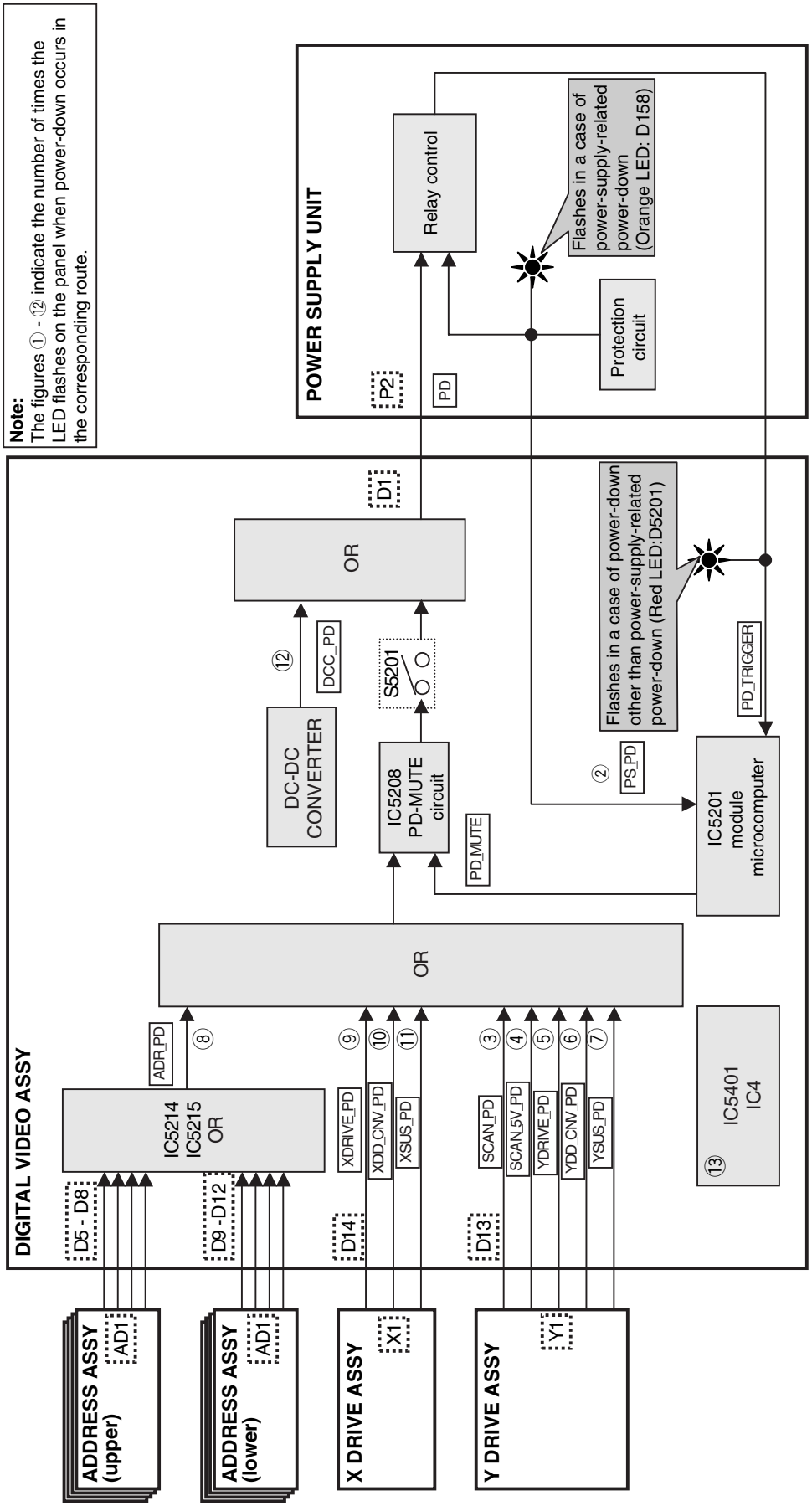
**Note:**
The figures ① - ⑤ indicate the number of times the LED flashes when shutdown occurs in the corresponding route.




## • Diagnosis of shutdown

| LED | SD Circuit in Operation | Defective Assy | Reason for Shutdown | Point to be Checked | Possible Defective Part | Remarks |
|---|---|---|---|---|---|---|
| 1 time | Communication failure of the panel-drive IC | DIGITAL VIDEO | Communication failure of IC4 | IC4 BLOCK, PANEL FLASH BLOCK | IC5401, IC5305 | |
| | | | Writing failure of IC4 | | | After turning the unit on again, check if the data on the version can be read with the GS1 command. |
| 2 times | Communication failure of the module IIC (Check the shutdown subcategory on the Factory menu.) | DIGITAL VIDEO | Communication failure of the EEPROM (4K) | MODULE UCOM BLOCK | IC5206 | |
| | | PANEL IF | Communication failure of the EEPROM (2K) | PANEL IF BLOCK | IC4002 | |
| | | | Disconnection of cable | CN4009 - CN3501 | | Check if the cable is disconnected or not securely connected. |
| | | | Defective 114-pin FPC | CN4004 - CN5001 | ADY1081 | Check if the 114-pin FPC is broken or not securely connected. |
| | | HD AUDIO | Defective volume IC | HD AUDIO AMP Assy | IC3502 | |
| 3 times | Power decrease of DIGITAL-DC-DC | DIGITAL VIDEO | Defective DC-DC converter | DIGITAL DD CON BLOCK | U5602 | Check if 3.3 V and 1.5 V are activated. |
| | | | Defective RST IC | PANEL FLASH BLOCK | IC5301, IC5302, IC5303 | |
| | | POWER SUPPLY | No startup of 12 V | | | |
| 4 times | Panel having higher temperature | DIGITAL VIDEO | Cable disconnected | CN5202 - CN1071 | | |
| | | | Panel having higher temperature | Surrounding temperature | | Shutdown occurs when the sensor temperature becomes 74°C or more (PDP-435PE) or 74°C or more (PDP-505PE). |
| 5 times | Audio failure | | Speaker short-circuited | Speaker terminals | | Check if the speaker cables are in contact with the chassis, etc. |
| | | HD AUDIO | Defective AMP IC | HD AUDIO AMP ASSY | IC3504 | |
| | | HD AUDIO | Disconnection of cable | CN4009 - CN3501 | | Check if the cable is disconnected or not securely connected. |

**• Block diagram of the power-down signal system**



## • Power-down diagnosis (defective points)

| | PD Circuit in operation | Defective Assy | Reason for Power-down | Point to be Checked | Possible Defective Part | Remarks |
|---|---|---|---|---|---|---|
| 1 | MR POWER | | | | | |
| 2 | POWER | POWER SUPPLY Unit | | | | If the elapsed time from relay-on until the LED in the power supply unit lights is about 2-4 seconds, the defective assembly may be the 50 X or Y DRIVE. |
| | | 50 X DRIVE Assy | VSUS UVP | X SUS BLOCK | IC1203, IC1207 (mask module) | |
| | | 50 Y DRIVE Assy | VSUS UVP | Y SUS BLOCK | IC2303, IC2307 (mask module) | |
| 3 | SCAN | 50 SCANA, B Assy or Y 43 DRIVE Assy | VH UVP | SCAN IC | SCAN IC | |
| | | | VH UVP | VH DC/DC | IC2401, IC2402, IC2410, L2401 | |
| | | | VH OVP | VH DC/DC | IC2402, IC2410 | |
| | | | Disconnection of cable detected | CN2001, CN2301 | | |
| 4 | SCN-5V | 50 SCANA, B Assy or Y 43 DRIVE Assy | Disconnection of cable detected | CN2101, CN2102, CN2301 | | |
| | | | IC5V UVP | SCAN IC, IC5V DC/DC Y SUS BLOCK | SCAN IC, Q2401, Q2402, IC2304, | |
| | | | IC5V OVP | IC5V DC/DC | IC2403, IC2411 | |
| 5 | Y-DRIVE | 50 Y DRIVE Assy | +16.5V OCP | Y SUS BLOCK | IC2303, IC2307 (mask module), IC2301, IC2304, IC2305, R2332 | |
| 6 | Y-DCDC | 50 Y DRIVE Assy | VOFS UVP | VOFS DC/DC | IC2404, IC2412, Q2404, Q2407, Q2312 | |
| | | | VOFS OVP | VOFS DC/DC | IC2404, IC2412 | |
| 7 | Y-SUS | 50 Y DRIVE Assy | Power-down caused by detection of middle-point voltage | Y RESONANCE BLOCK | Q2202, Q2203, Q2214, Q2205, Q2206, Q2208, Q2209, Q2212, IC2201, IC2202, D2201, D2206, D2220, D2211, D2225, D2230, Control signal series resistors | |
| 8 | ADRS | 50 ADDRESS Assy | Disconnection of cable detected | CN1501 | | |
| | | | Power-down caused by detection of a power surge | ADR RESONANCE BLOCK | R1631, Q1601, D1602 | |
| 9 | X-DRIVE | 50 X DRIVE Assy | Disconnection of cable detected | CN1001, CN1201 | | |
| | | | +16.5V OCP | X SUS BLOCK | IC1203, IC1207 (mask module), IC1204, IC1206, R1230, IC1205 | |
| | | | VRN OCP | X SUS BLOCK | Q1205, R1226, R1251 | |
| 10 | X-DCDC | 50 X DRIVE Assy | VRN OVP | VRN DC/DC | IC1403, IC1404 | |
| | | | VRN UVP | VRN DC/DC | IC1402, IC1403, IC1404 | |
| | | | | X SUS BLOCK | Q1205, R1226, R1251 | |
| 11 | X-SUS | 50 X DRIVE Assy | Power-down caused by detection of middle-point voltage | X RESONANCE BLOCK | Q1102, Q1103, Q1114, Q1105, Q1108, Q1109, Q1111, Q1112, IC1101, IC1102, D1103, D1113, D1118, D1125, D1129, D1130, Control signal series resistors | |
| 12 | DIG-DCDC | DIGITAL VIDEO Assy | DCDC +3.3V, +1.5V OVP | DC DC CONVERTER BLOCK | U5602 (DC DC CONVERTER Module) | |
| 13 | IC4 | DIGITAL VIDEO Assy | IC4 Drive STOP | IC4 BLOCK | IC5401 | |

OVP: **O**ver **V**oltage **P**rotection UVP: **U**nder **V**oltage **P**rotection OCP: **O**ver **C**urrent **P**rotection

## 7.1.3 DIAGNOSIS WITH THE AID OF FACTORY MODE

**• Diagnosis with the aid of Factory mode**

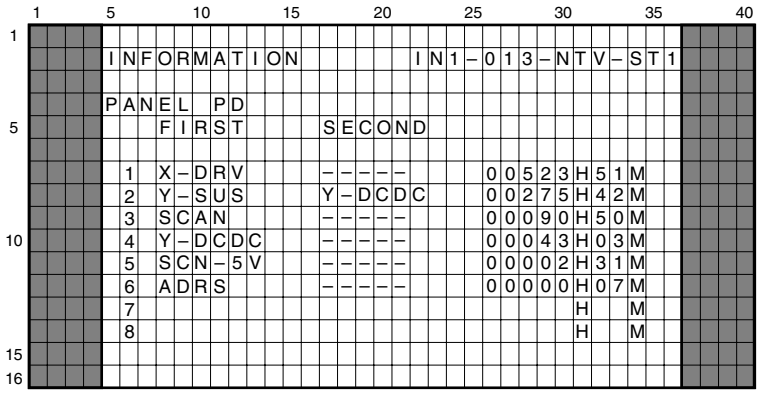
When the Media Receiver is connected, the power-down and shutdown logs can be referred to with OSD. Only the items useful when servicing the PDP-505PE/PRO-505PU are described here.

### ■ How to enter Factory mode using the remote control unit

Please refer to the technical documentation. (Service knowhow is the same as G4 PDP models.)

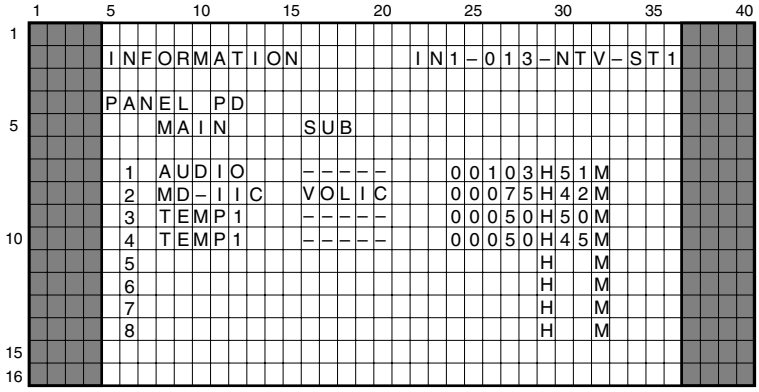
### ■ Power-down log (INFORMATION-PANEL PD)

The last 8 power-down records are held, with the latest power-down displayed at the top. In the FIRST column, the location where the PD circuit was activated first (location indicated by flashing of the LED during power-down) is indicated, and in the SECOND column, the location where the PD circuit was activated second is indicated.
**Note:** There may not be a SECOND PD.




### ■ Shutdown log (INFORMATION-PANEL SD)

The last 8 shutdown records are held, with the latest shutdown displayed at the top. If a shutdown occurred because of "MD-IIC" (communication failure of the module microcomputer IIC), the subcategory is indicated to inform you of with which device the microcomputer was in the process of communicating when a failure occurred.



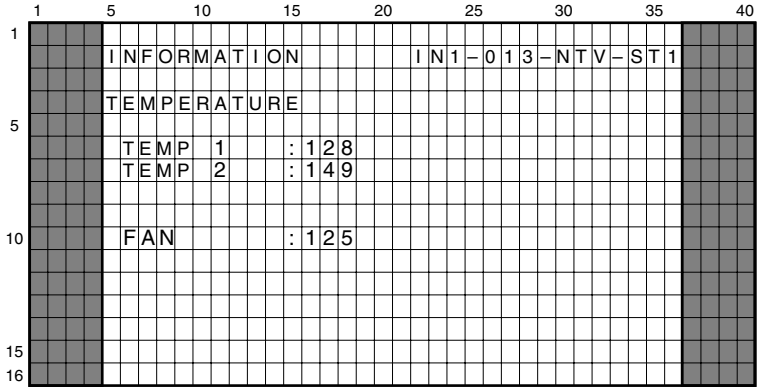

**[ Data on MD-IIC subcategories ]**

| OSD | Defective communication part |
|---|---|
| EROM4K | IC5206: Module microcomputer EEPROM |
| EROM2K | IC4002: EEPROM for backup |
| VOLIC | IC3502–Volume IC |

## ■ Data on temperature (INFORMATION-TEMPERATURE)

The data on the current temperatures are displayed.
The temperature at the PANEL SENSOR ASSY of the PDP-505PE/PRO-505PU is indicated as the TEMP 1 value (000-255), which should be converted using the following formula:
Current temperature (°C) ≒ 0.65 × TEMP 1 value - 52

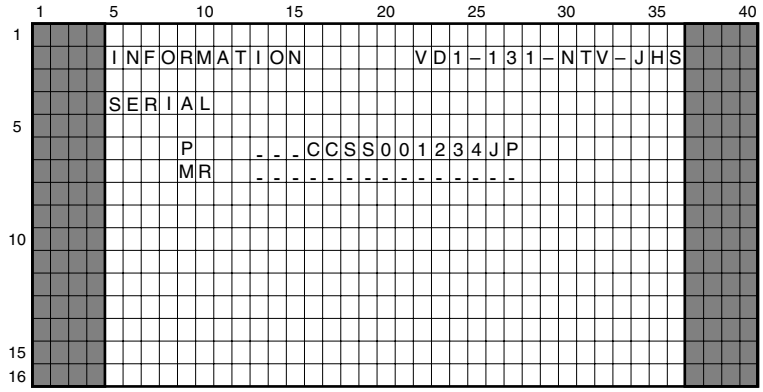
**Note:** Shutdown caused by high TEMP 1 value
PDP-505PE: TEMP 1 value > 195 ( ≒ 74°C)
PRO-505PU: TEMP 1 value > 195 (≒ 74°C)




**Note:** To update the data on temperature, use the Left and Right keys on the remote control unit.

**Reference:** Serial-number information (INFORMATION-SERIAL)

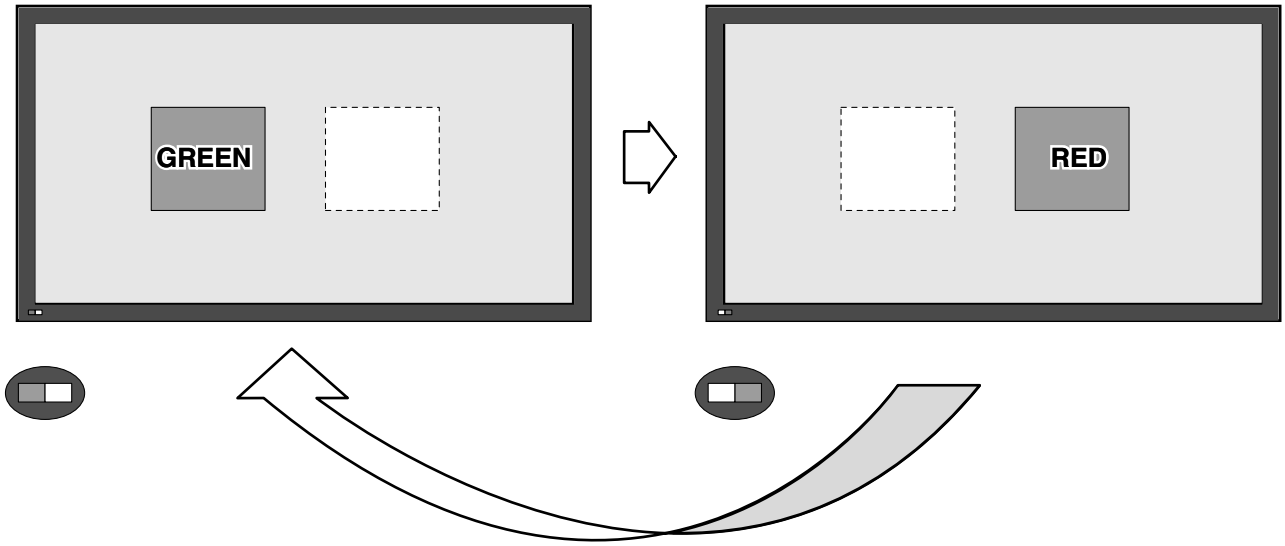
You can check the serial number of the product on the Factory menu.



## 7.1.4 OPERATION WHEN THE MEDIA RECEIVER IS NOT CONNECTED

As the connection conditions of the system cables (MDR cable, DVI cable) are usually detected, if no connection, such as cable disconnection, is detected, a warning indication (alternate flashing of the red and green areas) is displayed on the mask screen, and the red and green LEDs flash alternately. Then after about 30 seconds, the power is automatically turned off.

**Note:** Only when the power is turned on again, a warning indication on the mask screen restarts. During standby, only the red and green LEDs flash alternately.




Alternate flashing at intervals of about 1 second

To operate the panel without the Media Receiver, there are the following two ways:

1. Operation-without-the-Media-Receiver mode

Input the "SCN" RS232C command. The status of the LEDs changes to that in normal operation mode.

**Note:** Turning the AC switch to OFF then ON also maintains this mode. However, once the unit is connected with the Media Receiver using the MDR cable, this mode is automatically canceled.

2. DVI mode

Turn the unit on while DVI SG signals are being input with only the DVI connecter connected. After a warning is displayed for about 5 seconds, the unit is ready to display the screen of the input signal. (Green LED lit)

**Notes:**
- Although the output from XGA (43 inch) and WXGA (50 inch) can be input to the unit, this is not a mode open to general users. (With some signals, errors such as power-down may occur.)
- If a DE signal from the SG is not input during DVI mode, the green LED flashes (at intervals of 2 sec) for about 8 seconds, then the unit shifts to Power Management mode (the green LED lights).
- Although the PC signal data are displayed for the PDP-504P series panels, for the PDP-505P series panels this is not possible, because the EDID-ROM has not been provided.

## 7.1.5 TEMPERATURE-COMPENSATION FUNCTION OF THE DRIVE-SYSTEM VOLTAGE

Function: To control the DRIVE-system voltage according to the temperature (Temperature compensation functions such that the voltage is lowered on the lower-temperature side and the voltage becomes higher on the higher-temperature side.)

Purpose: For improving the yield by compensating for the temperature characteristics of the panel

**Note:** Temperature compensation is performed only for the VSUS voltage, and not for the VOFS voltage. This compensation is controlled by the software.

## 7.1.6 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

Function: Only the power for the low voltage lines (16.5 V, 12 V, and 6.5 V) is on, and the power for the high voltage lines (VSUS, VADR) is off.

Usage: 1. Use when only an operational check for the low voltage lines is required, such as when making repairs.
2. Use when rewriting of a program for each microcomputer is required.

Methods: 1 Set the slide switch (S5201) on the DIGITAL VIDEO Assy to its upper position (See Fig. below).
2. Send the "DRF" RS232C command to turn the large-signal system off.
3. Send the "DRN" RS232C command to turn the large-signal system on.

**Notes:**

- As the unit enters Power-Down and Muting On mode when Methods 1 and 2 are performed, and power-downs other than those caused by the power (PS_PD) and DC-DC-converter (DIGITAL_DC-DC) circuits are not activated.
- If the slide switch is set from OFF to ON while the power is on, a power-down will occur. Be sure to turn the power off before switching the slide switch.
- When using the RS232C commands, as with the slide switch, do not use the "DRN" command (DRIVE ON) while the power is on, although doing so will not cause a power-down.
- Although the "DRF" RS232C command is enabled during Standby, if the power is turned on then turned off, the unit will return to "DRN" mode.

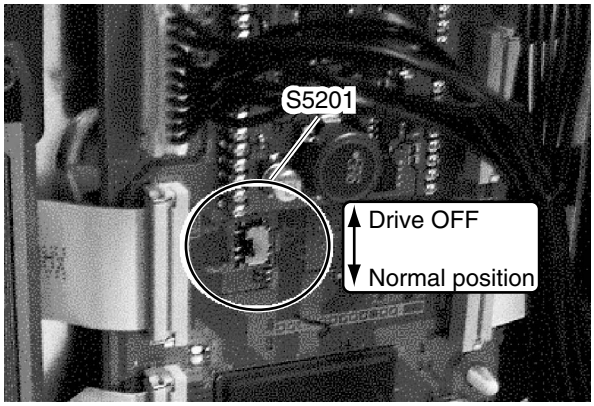



Fig. Drive OFF switch

# 7.1.7 BACKUP WHEN THE MAIN UNIT IS ADJUSTED

## ■ Outline

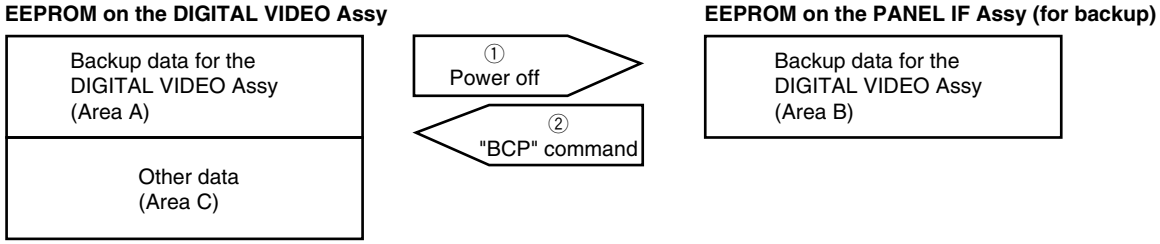
The data on the adjustment values for the main unit are stored in an EEPROM (IC5206, 4 kbits) on the DIGITAL VIDEO Assy. Part of the data (area A in the figure below) are automatically copied to an EEPROM (IC4002, 2 kbits) mounted on the PANEL IF Assy for backup. When the DIGITAL VIDEO Assy is replaced, the backup data on the adjustment values for the main unit stored in the PANEL IF Assy can be copied to the new DIGITAL VIDEO Assy, thus enabling you to omit newly performing adjustments on the main unit. The logs for the product (power-down log, etc.) can also be copied.

## ■ Data to be backed up in the digital EEPROM (area A)

- Margin adjustment values (Vsus, Vofset)
- Power upper-limit adjustment value (ABL)
- PANEL white-balance adjustment values
  (PANEL-R HIGH, PANEL-G HIGH, PANEL-B HIGH, PANEL-R LOW, PANEL-G LOW, PANEL-B LOW)
- Drive waveform adjustment values
  (X-SUS-U1, X-SUS-U2, X-SUS-D1, X-SUS-D2, Y-SUS-U1, Y-SUS-U2, Y-SUS-D1, Y-SUS-D2, Y-SUS-D3, Y-SUS-D4)
- Hour meter
- Pulse meter
- Number of times the power has been turned on
- PD/SD logs
- Serial Number

## ■ Basic flow of automatic backup

Using a keyword, the data in areas A and B are judged as to whether they have been adjusted or not, then copying is performed.


EEPROM on the DIGITAL VIDEO Assy
Backup data for the DIGITAL VIDEO Assy (Area A)
Other data (Area C)
①
Power off
②
"BCP" command
EEPROM on the PANEL IF Assy (for backup)
Backup data for the DIGITAL VIDEO Assy (Area B)

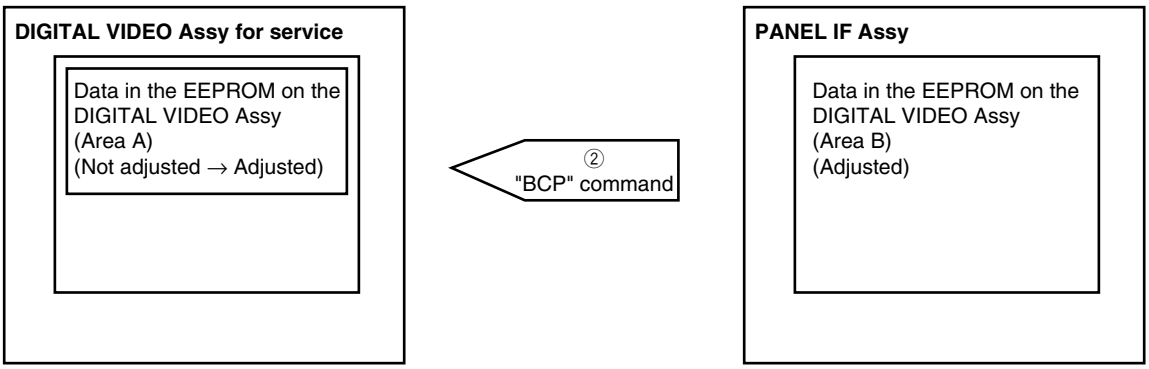
① The keyword on the DIGITAL VIDEO Assy is checked when the power is turned off, and if it is "adjusted", automatic backup is performed.
② If the keyword on the PANEL IF Assy (Area B) is "adjusted," copying can be performed with the "BCP" RS232C command.

## ■ Actual automatic backup operations by RS-232C command

1. When the DIGITAL VIDEO Assy is replaced with a new DIGITAL VIDEO Assy for service

Changing of keywords is not required. Replace the DIGITAL VIDEO Assy with an Assy for service, and send the "BCP" RS232C command. Thus, the backup data in the EEPROM on the PANEL IF Assy are copied to the EEPROM on the DIGITAL VIDEO Assy for service.

**Note:** To remind you to send the "BCP" command after replacing the DIGITAL VIDEO Assy with one for service, a warning by the LEDs (the red LED lit and the green LED flashing at intervals of 200 ms) is indicated until the "BCP" command is issued.


DIGITAL VIDEO Assy for service
Data in the EEPROM on the DIGITAL VIDEO Assy (Area A) (Not adjusted → Adjusted)
②
"BCP" command
PANEL IF Assy
Data in the EEPROM on the DIGITAL VIDEO Assy (Area B) (Adjusted)

2. When a repaired DIGITAL VIDEO Assy is mounted on another unit (reuse of the repaired DIGITAL VIDEO Assy)

The keyword of the DIGITAL VIDEO Assy to be reused must be changed to "not adjusted" using the "UAJ" RS232C command.

Note 1: If a repaired DIGITAL VIDEO Assy is mounted in another unit (Unit 2) without this change of keyword, and the power to the unit 2 is turned off, the data in force before the repair of the DIGITAL VIDEO Assy will be copied to Area B of the PANEL IF Assy of Unit 2, overwriting the data necessary for Unit 2. Once overwritten, the original data will not be restored.

3. When a repaired DIGITAL VIDEO Assy is mounted on the original unit (reuse of the repaired DIGITAL VIDEO Assy)
Changing of keywords is not required. After the repaired DIGITAL VIDEO Assy is mounted in the original unit, the unit can operate with its latest adjustment values.

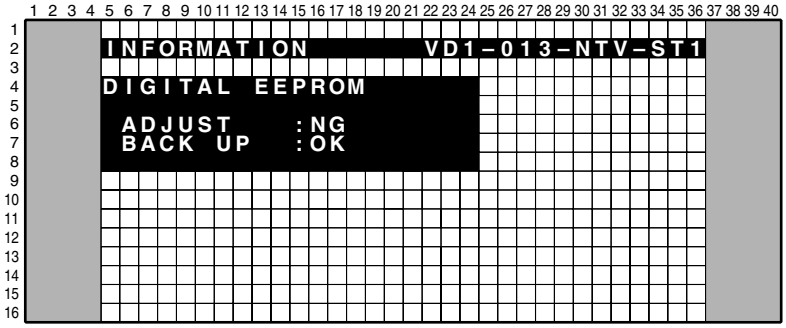
4. When both the DIGITAL VIDEO Assy and PANEL IF Assy are simultaneously replaced with other assemblies
The automatic backup function of this unit will not work properly.

Note 2: Readjustment of the main unit is required.
Note 3: After readjustment of the main unit, send the "FAJ" RS232C command to change the keyword of the DIGITAL VIDEO Assy to "adjusted." Thus, when the unit is turned off, automatic backup of adjustment data is performed properly.
Note 4: If readjustment of the main unit is totally impossible, it can be omitted by installing the EEPROM (IC5206, 4 kbits) originally mounted on the DIGITAL VIDEO Assy for service.

## ■ Automatic backup operations in Service/Factory mode

### [Status confirmation]

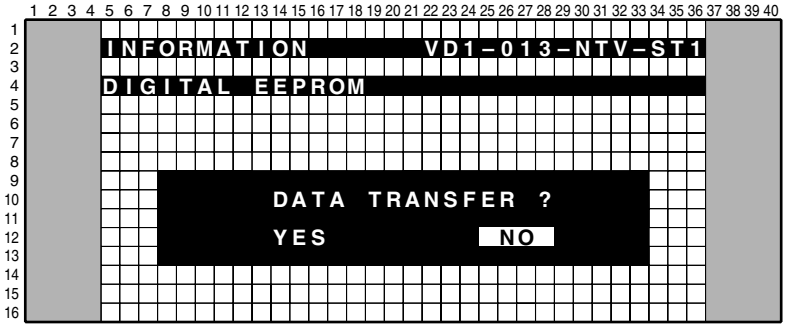
Display the screen page shown below to check if the DIGITAL VIDEO Assy has been adjusted or a new service part might have been installed without adjustment being performed, and if the adjustment values have been stored in the backup ROM.
If the DIGITAL VIDEO Assy has not been adjusted (NG), the red LED lights, and the green LED flashes at intervals of 200 ms. In such a case, be sure to download the data from the backup ROM.




### [Downloading the adjustment data from the backup ROM] (Required after the DIGITAL VIDEO Assy is replaced)

After the DIGITAL VIDEO Assy is replaced, enter Service/Factory mode to copy the data from the backup ROM. Display the screen page shown above after entering Service/Factory mode then press the Enter key. The indication below is displayed. Move the cursor to YES then press the Enter key to start copying the data from the backup ROM to the new DIGITAL VIDEO Assy.

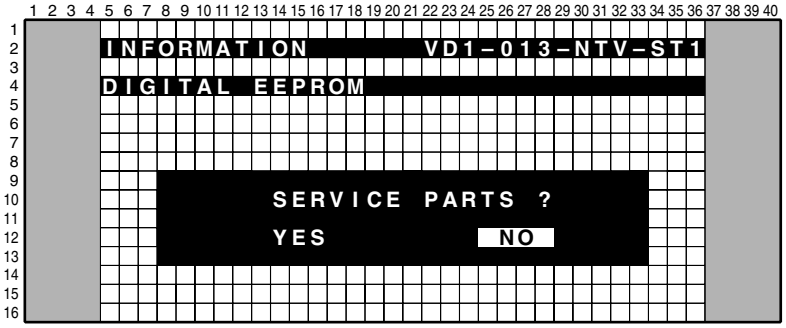
**Note:** Be sure to perform this operation when the DIGITAL VIDEO Assy is replaced with a new service part.



### [Clearing the data in the ROM of the DIGITAL VIDEO Assy]

After either YES or NO is selected on the display shown above, the indication shown below is automatically displayed. Move the cursor to YES then press the Enter key. The data in the ROM of the DIGITAL VIDEO Assy become those for a service part (not adjusted).

**Notes:** • Use this operation after the DIGITAL VIDEO Assy in failure is repaired and is to be reused as a service part.
• In normal replacement of the Assy with a new service part, this operation is not required. Select NO after replacement with a service part.




When either YES or NO is selected on the above display, the display will automatically return to that for status confirmation shown above.

## ■ Miscellaneous

If the white balance (W/B) value is largely shifted because of aging, etc., W/B adjustment is required. (As this may be a rare case, the adjustment procedures are described below, just for your reference.)

### [ W/B-adjustment procedures ]

The W/B adjustment can be performed with the RS232C commands with the Media Receiver not connected to this unit. The GGF1475 special communication tool and a Minolta CA-100 color difference meter are required.

① Enter Operation-without-the-Media-Receiver mode with the "SCN" RS232C command.

② Set the keyword for the DIGITAL VIDEO Assy to "not adjusted" with the "UAJ" RS232C command.

③ Obtain the current adjustment values in the two adjustment tables (see "6.3.1 RS232C commands").
• Shifting to Table 1: Send the "M51" and "F60" commands. Obtaining the adjustment values: Send the "GPW" command.
• Shifting to Table 2: Send the "M51" and "F75" commands. Obtaining the adjustment values: Send the "GPW" command.

④ Make settings for various functions.
Send the "PPN," "SDN," "SPN," and "WAY" commands.
**Note:** After adjustment, when the POWER switch is set to OFF, these settings will be reset to the initial values.

⑤ For each table, set the brightness.
• Adjustment in Table 1: After sending the "F60" command, perform adjustment.
• Adjustment in Table 2: After sending the "F75" command, perform adjustment.
For each table, change the RGB parameters so that the values measured using a Minolta color difference meter (CA-100) become as indicated below. In this case, any one of PRH, PGH, or PBH must be set to 256.

| | Right side of Mask H |
|---|---|
| x | 285 |
| y | 289 |

"PRH***" : 000 - 511
"PGH***" : 000 - 511
"PBH***" : 000 - 511

⑥ Check after adjustment
• Shifting to Table 1: Send the "F60" command. Obtaining the adjustment values: Send the "GPW" command.
• Shifting to Table 2: Send the "F75" command. Obtaining the adjustment values: Send the "GPW" command.
Check that the adjustment data have been changed.

⑦ Change the keyword for the DIGITAL VIDEO Assy to "adjusted" by sending the "FAJ" RS232C command.

**Note:** Use a Minolta CA-100 color difference meter or the equivalent for measurement. Otherwise, the specifications of the product cannot be assured.

**Note:** To cancel adjusted data and return to the values before adjustment, send the "BCP" RS232C command. Turn the AC power off then turn it back on before setting the unit to Standby OFF. The backup values are then retrieved.

## [ Diagnosis of abnormalities other than shutdown and power-down ]

| Symptom | Defective Assy | Possible Cause | Check Point | Possible Defective Part | Remarks |
|---|---|---|---|---|---|
| No power (both red and green LEDs unlit) | | Cable disconnection | CN4001 | | Check if the connection between the POWER SUPPLY and PANEL IF assemblies is properly made. |
| No power (green LED not lit) | | Defective 114-pin FPC | CN4004 - CN5001 | ADY1081 | Check if the FPC is broken or not securely inserted. |
| The power is (sometimes) interrupted. | | Defective system cables | CN4002, CN4003 | | Check if the system cables are securely connected. (See "7.1.4 Operation when the Media Receiver is not connected.") |
| The power is interrupted, and the red and green warning indications appear on the screen. | | System cables not connected | | | Check connection of the system cables. (See "7.1.4 Operation when the Media Receiver is not connected.") |
| While the red LED remains lit, the green LED begins flashing (200 ms). | | No backup copy | | | The backup copy process was not performed when the Digital Assy was replaced. (See "7.1.7 Backup when the main unit is adjusted".) |
| Key input not effective | | Cable disconnection | CN4801 - CN4851 | ADD1225 | Check if the FPCs are properly connected. Check if imparting vibration to the unit affects key inputs. Check if a pulse is output when the key corresponding to Pin 2 of the CN4852 is pressed. |
| | | Cable disconnection | CN4852 - CN4010 | | Check if the cables are disconnected or not securely connected. Check if a pulse is output when the key corresponding to Pin 8 of the CN4010 is pressed. |
| | KEY CONTROL | Defective KEY SCAN IC | KEY CONTROL Assy | IC4851 | Check if a pulse is output when the key corresponding to Pin 2 of the CN4852 is pressed. |
| Remote control unit not effective | | Cable disconnection | CN4901 - CN4010 | | Check if the cables are not connected or securely connected. |
| | PANEL IR | Defective infrared receiver | PANEL IR | U4901 | Check if a pulse is output when the key corresponding to Pin 3 of the CN4010 is pressed. |
| Abnormality in a one-eighth area of the screen | DIGITAL VIDEO | Defective IC4 | IC4 BLOCK | IC5401 | Check if an abnormal area in the screen changes when the FPC connected to the address corresponding to the abnormal area is replaced with the one corresponding to the next address. |
| | ADDRESS | | | | Check that an abnormal area in the screen does not change when the FPC connected to the address corresponding to the abnormal area is replaced with the one corresponding to the next address. |
| Abnormal screen<br>(Data of every other dot are abnormal) | | Defective 114-pin FPC | CN4004 - CN5001 | ADY1081 | Check if the FPC is broken or not securely inserted. |

## 7.1.9 DISASSEMBLY

### 1 Rear Case (50P) and Front Case Assy (50P)

① Remove the 15 screws.

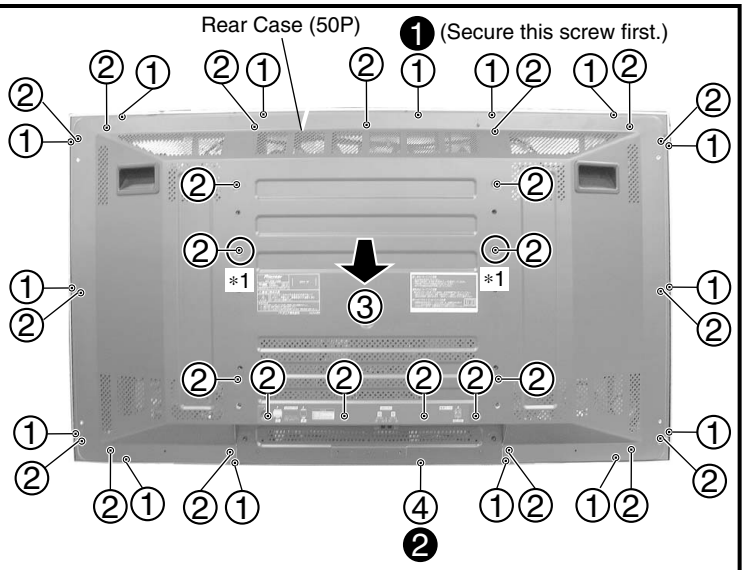
② Remove the 25 screws.

∗1:
When reassembling, first secure the screws for these holes to position the Rear Case (50P) correctly.

③ Remove the Rear Case (50P).

④ Remove the screw.

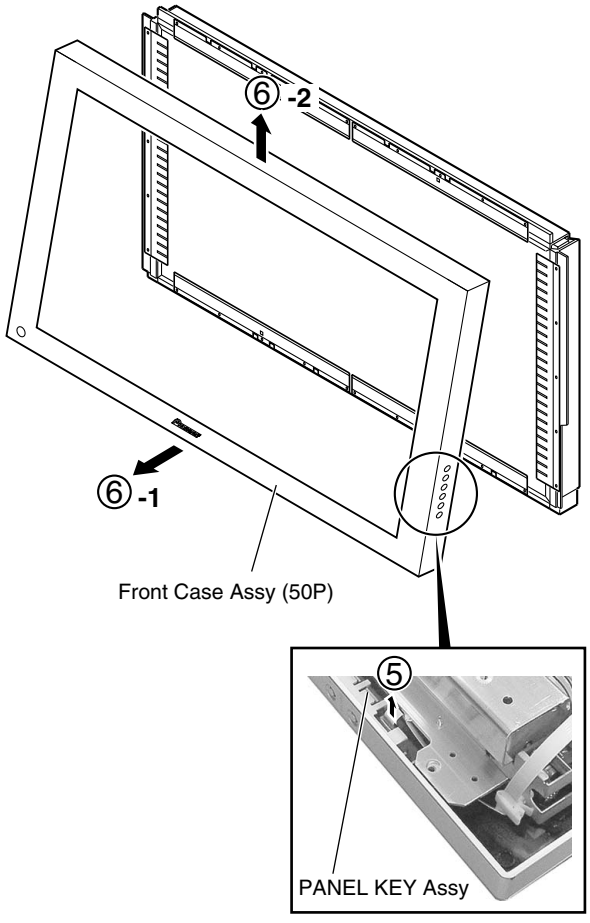
When reassembling the Front Case Assy (50P)
Secure the screws in the order of ❶ and ❷.
Then secure the screws on the upper side, the sides, then the lower side.




⑤ Remove the flexible cable on the PANEL KEY Assy.

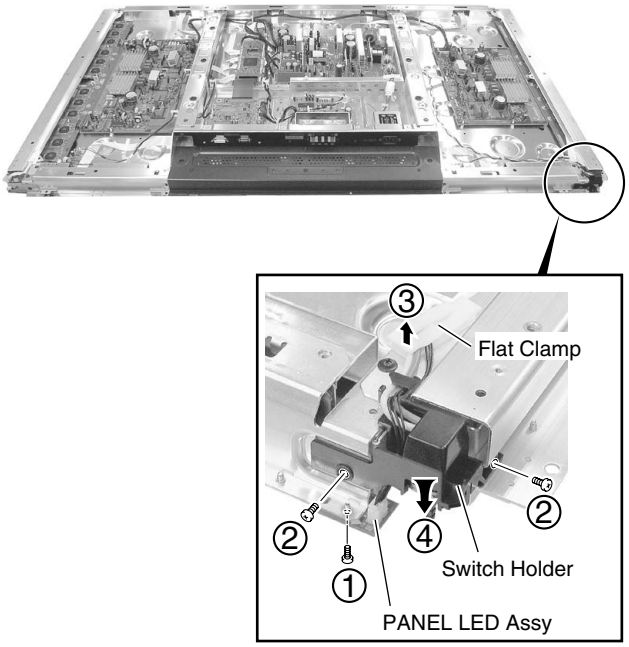
⑥ Remove the Front Case Assy (50P).

**Note:** If you wish to remove only the Front Case Assy, you can remove it in the order of ①, ④, ⑤, and ⑥.

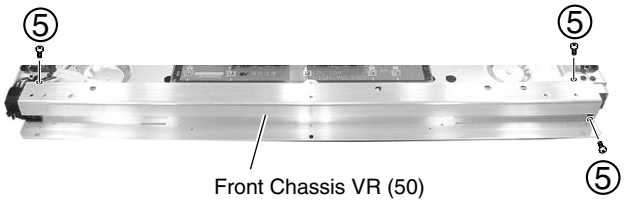


## 2 X CONNECTOR A and B Assy's

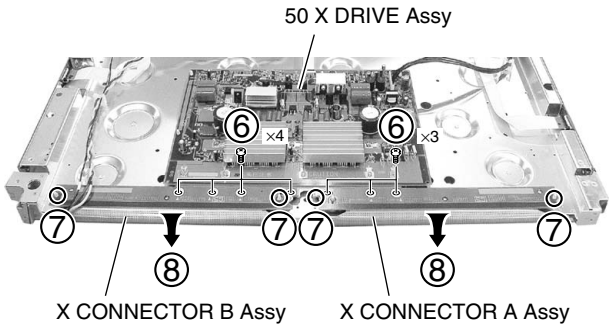
① Remove the PANEL LED Assy by removing one screw.
② Remove the two screws.
③ Remove the flat clamp and remove the wires.
④ Remove the Switch Holder.




⑤ Remove the three screws to remove the Front Chassis VR (50).

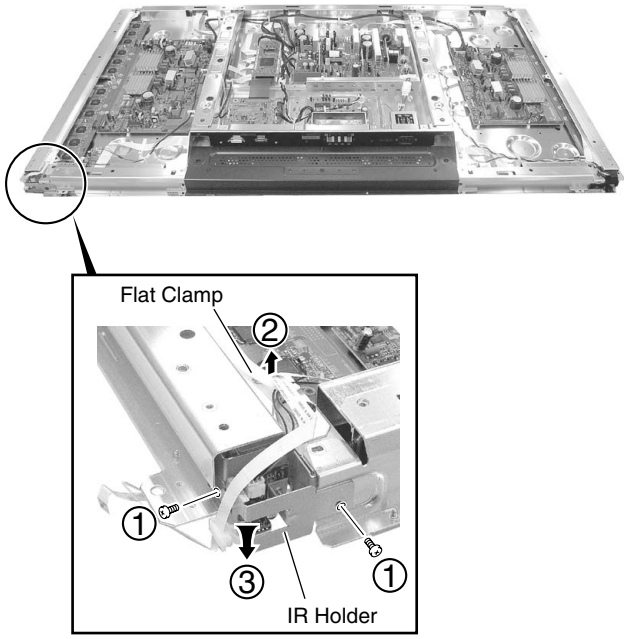



⑥ Remove the seven screws.
⑦ Remove the four PCB spacers.
⑧ Remove the X CONNECTOR A and B Assy's.

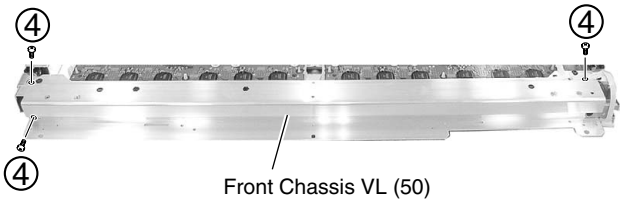


## 3 50 SCAN A and B Assy's

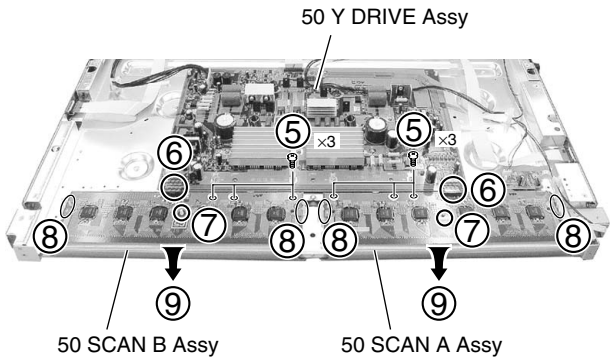
① Remove the two screws.
② Remove the flat clamp and remove the wires.
③ Remove the IR Holder.




④ Remove the three screws to remove the Front Chassis VL (50).



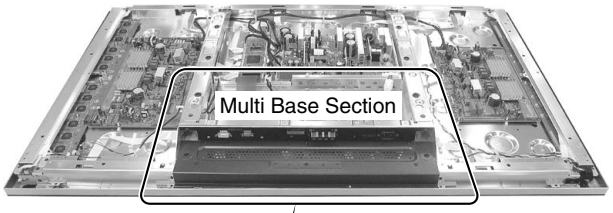

⑤ Remove the six screws.
⑥ Disconnect the two pin connectors.
⑦ Remove the two PCB spacers.
⑧ Remove the four edge card spacers.
⑨ Remove the 50 SCAN A and B Assy's.

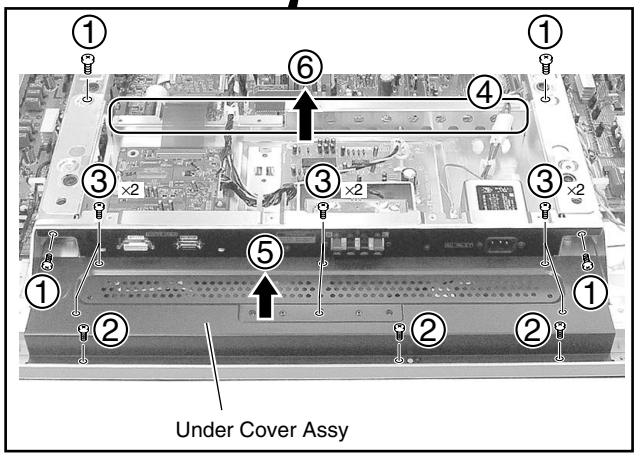


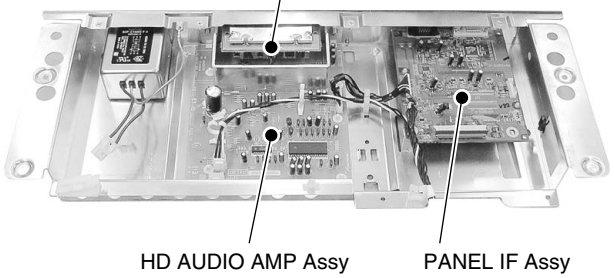
## 4 MULTI BASE SECTION

**Note:**
To access the Multi Base Section, only the Rear Case must be removed. No other parts need to be removed.

① Remove the four screws.
② Remove the three screws.
③ Remove the six screws.
④ Disconnect the connectors.
⑤ Remove the Under Cover Assy.
⑥ Remove the Multi Base Section.



# 7.2 IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

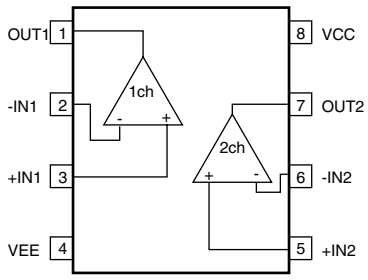
● **List of IC**

BA10393F, BA10358F, BA8274F, NJM2195L, MBM29PL160BD-75PFTN, SII169CTG100, STK795-512A, STK795-513A, LA4625, M30622FHPGP, PEG054A, AN16021A-K

## ■ BA10393F (50 X DRIVE ASSY: IC1103) (50 Y DRIVE ASSY: IC2211)

• Comparator IC

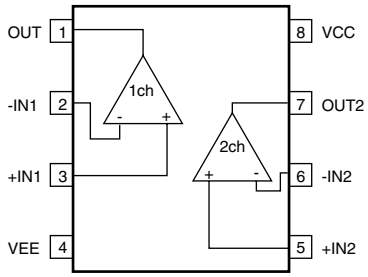
● **Pin Arrangement (Top view) / Block Diagram**




## ■ BA10358F (50 Y DRIVE ASSY: IC2406)

• OP-AMP IC

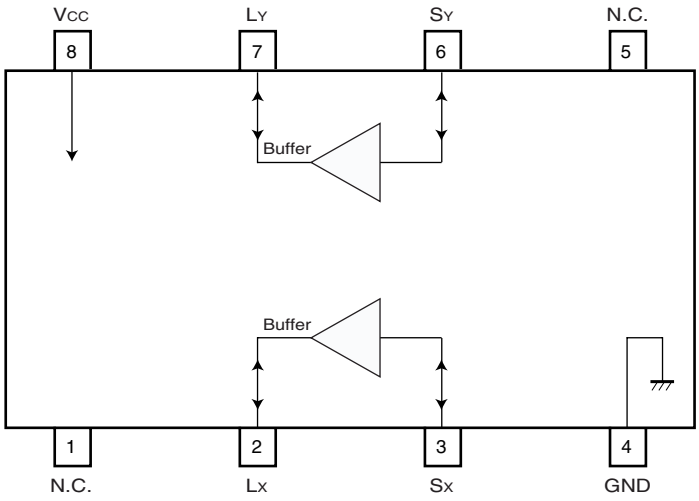
● **Pin Arrangement (Top view) / Block Diagram**



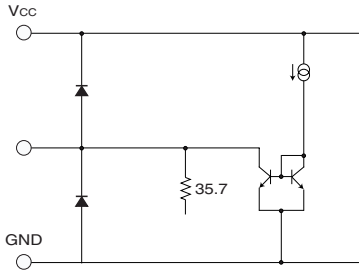
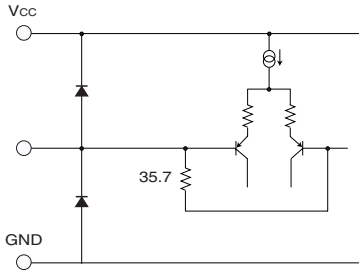
## BA8274F (PANEL IF ASSY: IC4206)

- $I^2C$ Bus Interface IC

### ● Block Diagram



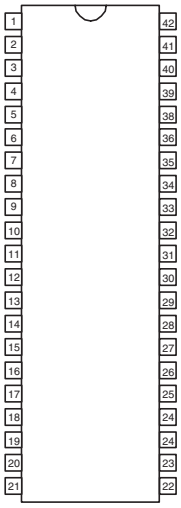

### ● Pin Function

| Pin No. | Pin Name | Equivalent Circuit | Pin Function |
|---|---|---|---|
| 2<br>7 | LX<br>LY |  | Buffer output |
| 3<br>6 | SX<br>SY |  | Buffer input |
| 4 | GND | — | Ground |
| 8 | VCC | — | Power supply |

## ■ NJM2195L (HD AUDIO AMP ASSY: IC3501)

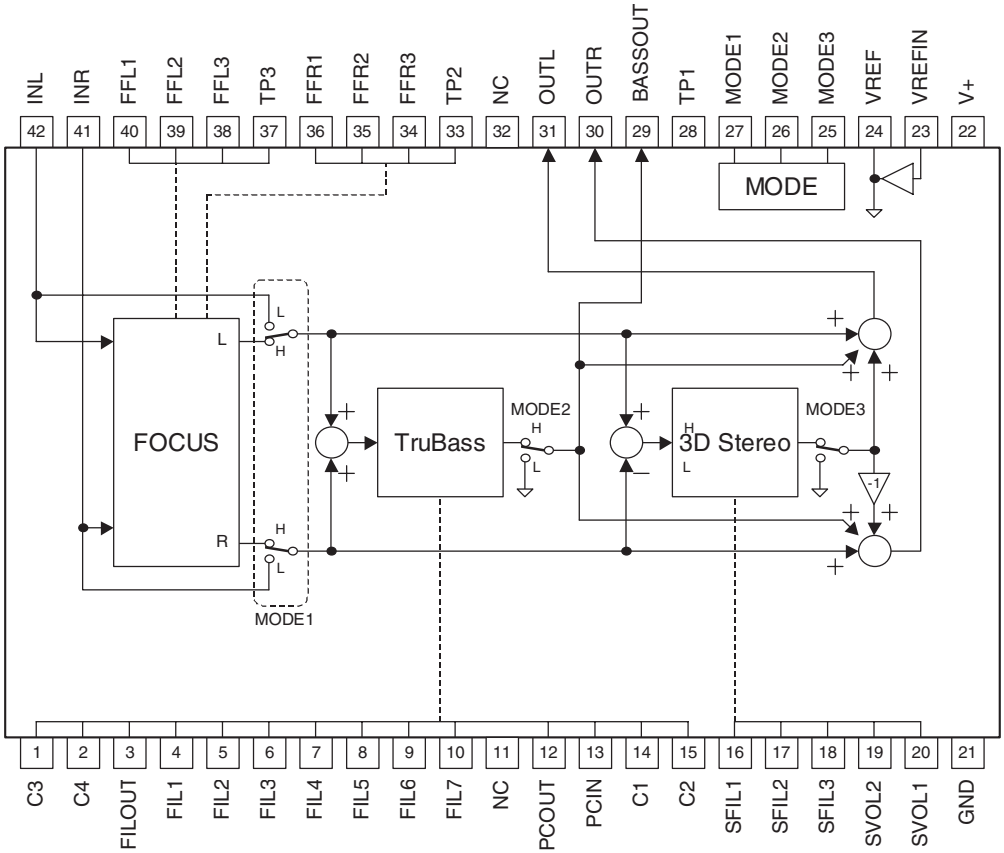
• Focus and SRS IC

### ● Pin Arrangement (Top view)

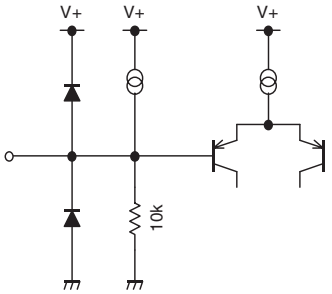
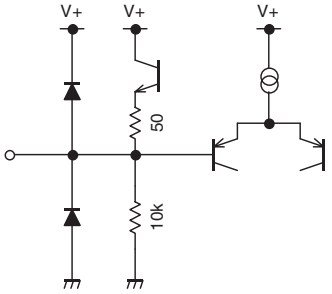
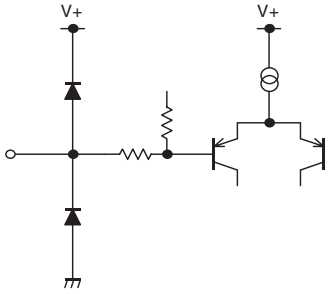
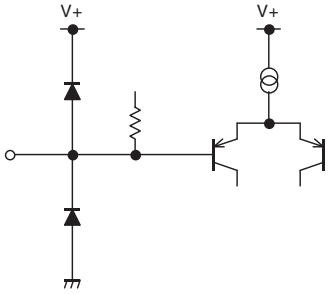


| | | | | | |
|---|---|---|---|---|---|
| 1. | C3 | 15. | C2 | 29. | BASSOUT |
| 2. | C4 | 16. | SFIL1 | 30. | OUTR |
| 3. | FILOUT | 17. | SFIL2 | 31. | OUTL |
| 4. | FIL1 | 18. | SFIL3 | 32. | NC |
| 5. | FIL2 | 19. | SVOL2 | 33. | TP2 |
| 6. | FIL3 | 20. | SVOL1 | 34. | FFR3 |
| 7. | FIL4 | 21. | GND | 35. | FFR2 |
| 8. | FIL5 | 22. | V+ | 36. | FFR1 |
| 9. | FIL6 | 23. | VREFIN | 37. | TP3 |
| 10. | FIL7 | 24. | VREF | 38. | FFL3 |
| 11. | NC | 25. | MODE3 | 39. | FFL2 |
| 12. | PCOUT | 26. | MODE2 | 40. | FFL1 |
| 13. | PCIN | 27. | MODE1 | 41. | INR |
| 14. | C1 | 28. | TP1 | 42. | INL |

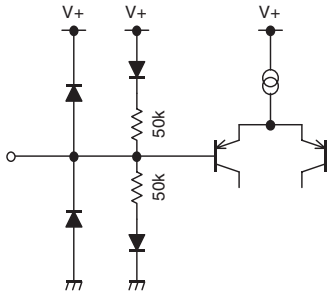
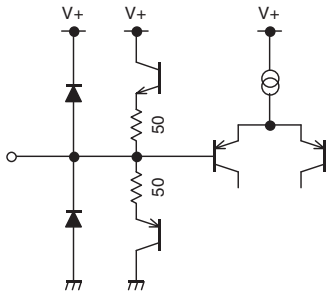
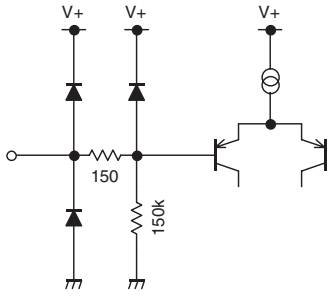
### ● Block Diagram



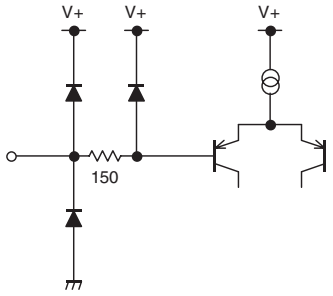
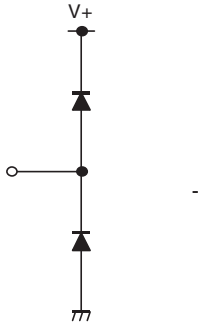
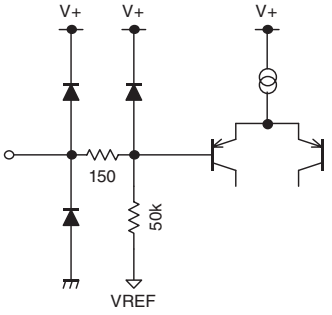
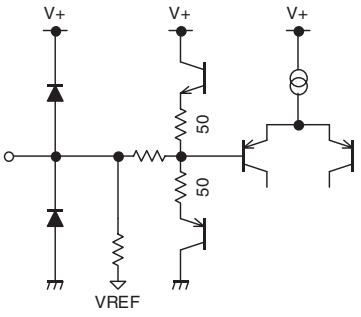
## ● Pin Function

| No. | | | Pin Name | | Equivalent Circuit | |
|---|---|---|---|---|---|---|
| SDIP42 | SOP40 | QFP48 | | | | |
| 14 | 13 | 9 | C1 | |  | 0V |
| 15 | 14 | 10 | C2 | |  | 0V |
| 16<br>17<br>18 | 15<br>16<br>17 | 11<br>14<br>15 | SFIL1<br>SFIL2<br>SFIL3 | |  | V+/2 |
| 19<br>2<br>5 | 18<br>2<br>5 | 16<br>44<br>47 | SVOL2<br>C4<br>FIL2 | WIDTH VR |  | V+/2 |

## ● Pin Function

| No. | | | Pin Name | | Equivalent Circuit | |
|---|---|---|---|---|---|---|
| SDIP42 | SOP40 | QFP48 | | | | |
| 21 | 20 | 18 | GND | GND | ——— | 0V |
| 22 | 21 | 19 | V+ | | ——— | V+ |
| 23 | 22 | 20 | VREFIN | |  | V+/2 |
| 24<br>29<br>30<br>31<br>36<br>40<br>3 | 23<br>28<br>29<br>30<br>34<br>38<br>3 | 21<br>28<br>29<br>30<br>34<br>40<br>45 | VREF<br>BASSOUT<br>OUTR<br>OUTL<br>FFR1<br>FFL1<br>FILOUT | TruBass<br>Rch<br>Lch |  | V+/2 |
| 25<br>26<br>27 | 24<br>25<br>26 | 22<br>23<br>26 | MODE3<br>MODE2<br>MODE1 | 3<br>2<br>1 |  | 0V |

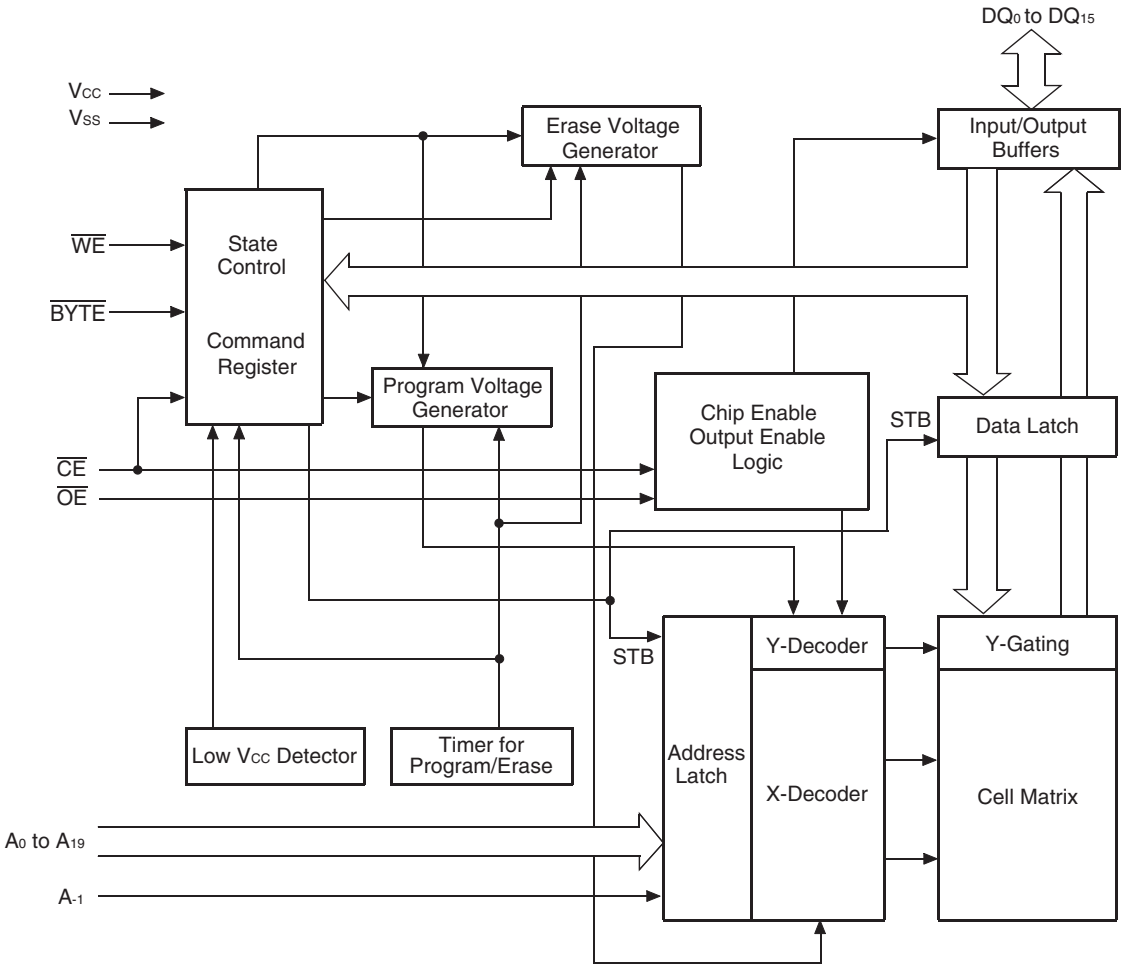
## ● Pin Function

| No. | | | Pin Name | | Equivalent Circuit | |
|---|---|---|---|---|---|---|
| SDIP42 | SOP40 | QFP48 | | | | |
| 28<br>35<br>39 | 27<br>33<br>37 | 27<br>33<br>39 | TP1<br>FFR2<br>FFL2 | |  | V+/2 |
| 33<br>37 | 31<br>35 | 31<br>35 | TP2<br>TP3 | |  | - |
| 41<br>42 | 39<br>40 | 41<br>42 | INR<br>INL | Rch<br>Lch |  | V+/2 |
| 4 | 4 | 46 | FIL1 | |  | V+/2 |

## ■ MBM29PL160BD (DIGITAL VIDEO ASSY: IC5303)

• Flash Memory IC

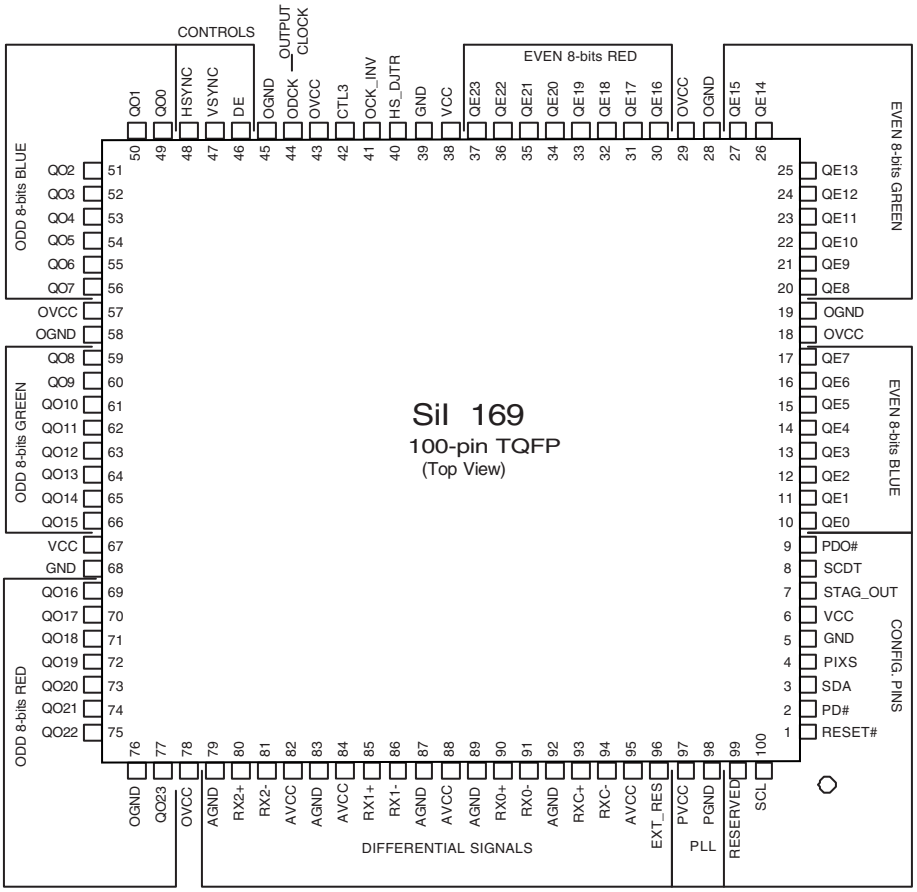
### ● Block Diagram



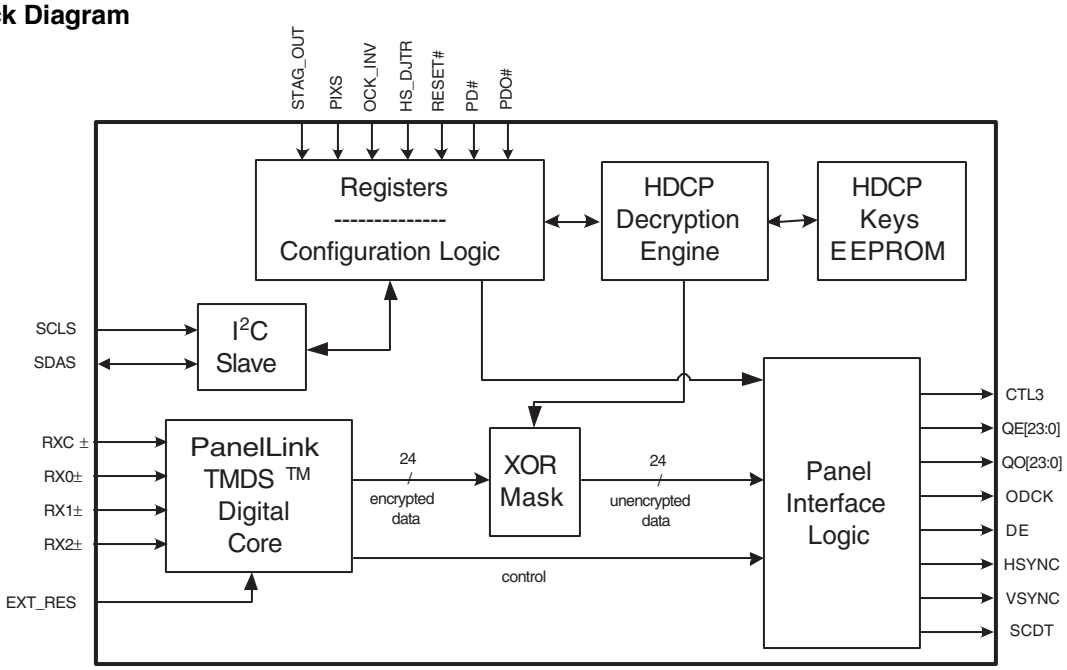
## ■ SII169CTG100 (PANEL IF ASSY: IC4202)

• Receiver IC

### ● Pin Arrangement (Top view)


CONTROLS
OUTPUT CLOCK
EVEN 8-bits RED
EVEN 8-bits GREEN
EVEN 8-bits BLUE
CONFIG. PINS
ODD 8-bits BLUE
ODD 8-bits GREEN
ODD 8-bits RED
DIFFERENTIAL SIGNALS
PLL
Sil 169
100-pin TQFP
(Top View)
QO1 QO0 HSYNC VSYNC DE OGND ODCK OVCC CTL3 OCK_INV HS_DJTR GND VCC QE23 QE22 QE21 QE20 QE19 QE18 QE17 QE16 OVCC OGND QE15 QE14
QO2 QO3 QO4 QO5 QO6 QO7 OVCC OGND QO8 QO9 QO10 QO11 QO12 QO13 QO14 QO15 VCC GND QO16 QO17 QO18 QO19 QO20 QO21 QO22
QE13 QE12 QE11 QE10 QE9 QE8 OGND OVCC QE7 QE6 QE5 QE4 QE3 QE2 QE1 QE0 PDO# SCDT STAG_OUT VCC GND PIXS SDA PD# RESET#
OGND QO23 OVCC AGND RX2+ RX2- AVCC AGND AVCC RX1+ RX1- AGND AVCC AGND RX0+ RX0- AGND RXC+ RXC- AVCC EXT_RES PVCC PGND RESERVED SCL

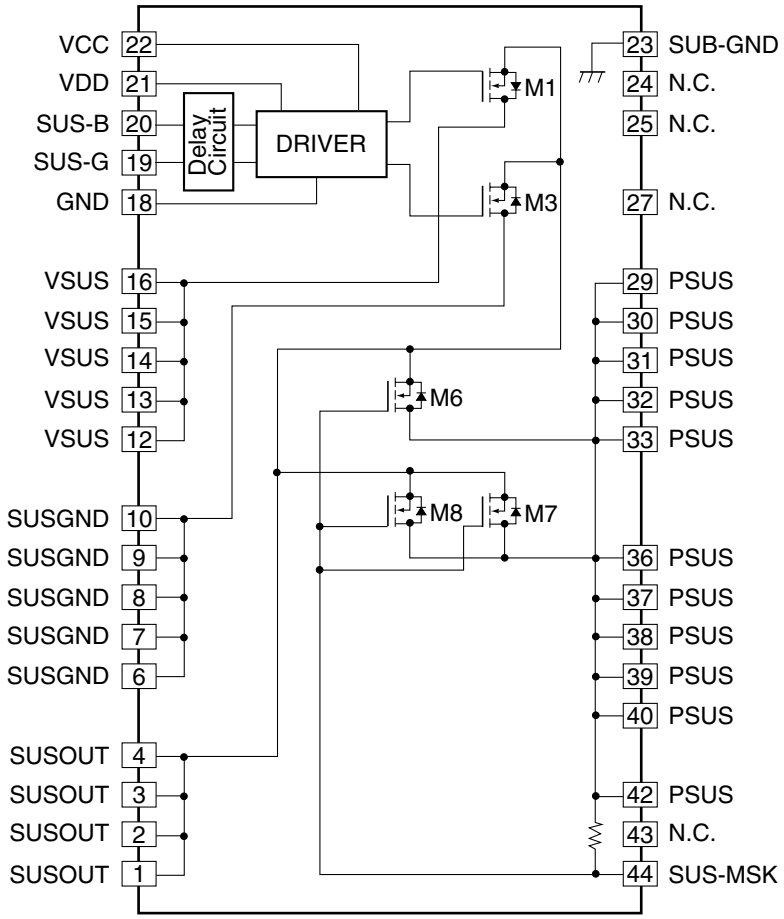
### ● Block Diagram



## ■ STK795-512A (50 X DRIVE ASSY: IC1203, IC1207)

**PDP Mask Module IC**

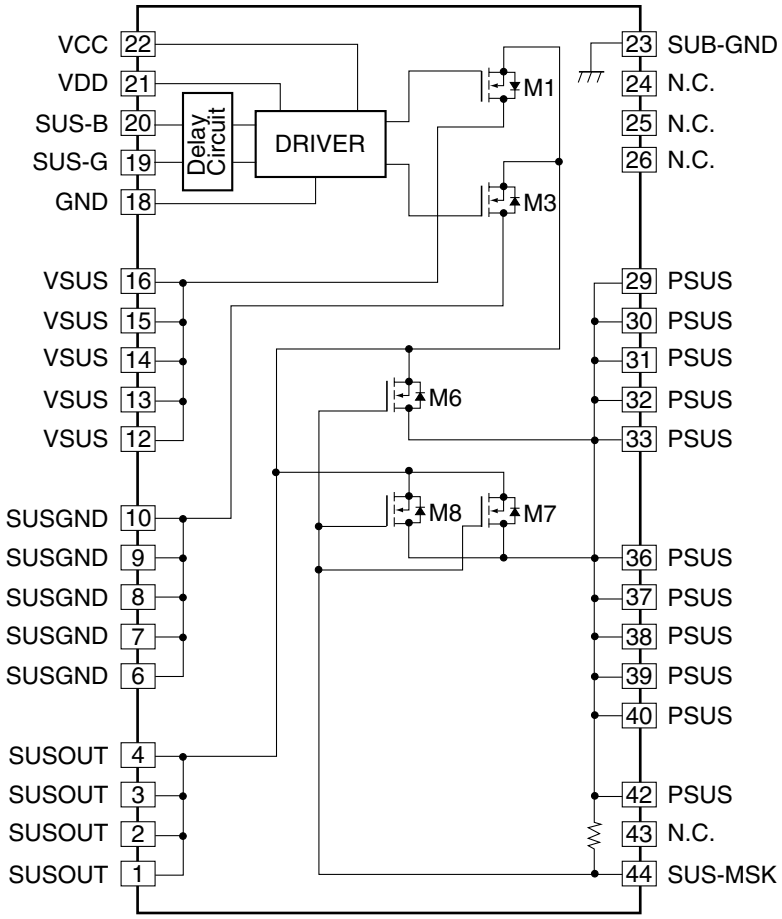
### ● Block Diagram



## ■ STK795-513A (50 Y DRIVE ASSY: IC2303, IC2307)

**PDP Mask Module IC**

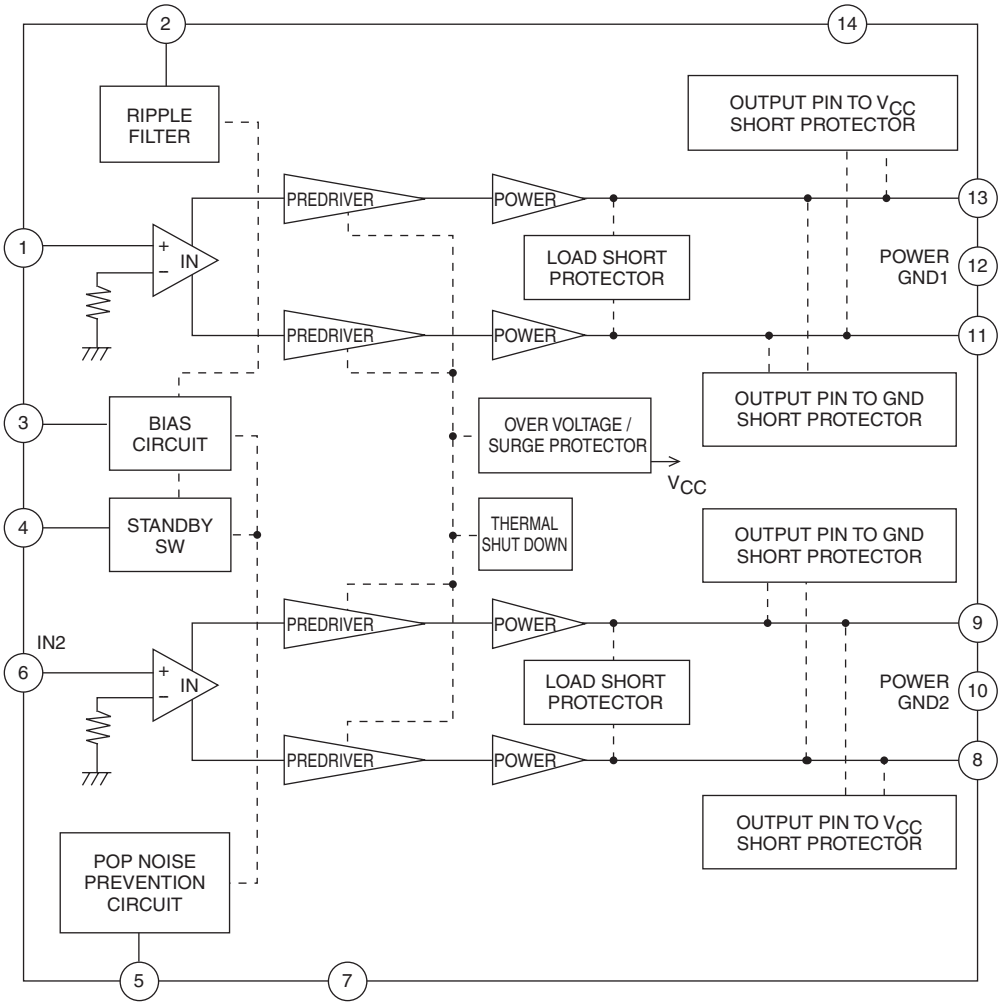
### ● Block Diagram



## ■ LA4625 (HD AUDIO ASSY: IC3504)

• 2ch BTL AF Power Amp IC

### ● Block Diagram



## ■ M30622FH8PGP (DIGITAL VIDEO ASSY : IC5201)

• PDP UCOM

● **Pin Function (1/2)**

| No. | Pin Name | Function | I/0 | ACTIVE |
|---|---|---|---|---|
| 1 | VSUS | [D/A] Vofs power control | O | |
| 2 | VOFS | [D/A] Vofs power control | O | |
| 3 | TXD_IC4 | 3 serial communication with IC4MANTA - data transmission | O | |
| 4 | RXD_IC4 | 3 serial communication with IC4MANTA - data receive | I | |
| 5 | CLK_IC4 | 3 serial communication with IC4MANTA - clock output | O | |
| 6 | BYTE | (GND connection) | I | |
| 7 | CNVSS | Pin for processor mode setting (pull-down) | I | |
| 8 | NC | NC pin | | |
| 9 | NC | NC pin | | |
| 10 | RST_MD | Reset input | I | L |
| 11 | XOUT | Output for main clock | O | – |
| 12 | VSS | GND | – | – |
| 13 | XIN | Input for main clock | I | – |
| 14 | VCC1 | Power supply = STB3.3V | – | – |
| 15 | NMI | (pull-up) | I | |
| 16 | REM_B | (Interruption) Remote control signal input (in the panel unit) | I | |
| 17 | KEY_B | (Interruption) Key signal input (in the panel unit) | I | |
| 18 | RST2 | (Interruption) IC4 reset detection | I | L |
| 19 | HD_IN_B | HD signal existence distinction | I | L |
| 20 | PD_MUTE | Mute the power down output to the POWER SUPPLY Unit | O | L |
| 21 | PS_PD | PD signal in the POWER SUPPLY Unit | I | H |
| 22 | DCC_PD | PD signal of DC-DC converter | I | H |
| 23 | NC | NC pin | | |
| 24 | NC | NC pin | | |
| 25 | VD_IN | V. frequency count | I | L |
| 26 | EEPRST | EEPROM power SW | O | H |
| 27 | E_SCL | IIC clock output for EEPROM | O | |
| 28 | E_SDA | IIC data I/O for EEPROM | I/O | |
| 29 | TXD | Communication with flash ROM writer - data transmission | O | |
| 30 | RXD | Communication with flash ROM writer - data receive | I | |
| 31 | SCLK | Communication with flash ROM writer - clock input | I | |
| 32 | BUSY | Communication with flash ROM writer - busy output | O | |
| 33 | TXD0 | UART communication with main UCOM (external PC) - data transmission | O | |
| 34 | RXD0 | UART communication with main UCOM (external PC) - data receive | I | |
| 35 | NC | NC pin | | |
| 36 | REQ_MD | Communication request to the main UCOM | O | H |
| 37 | PSW_D | Mute of DC-DC converter | O | H |
| 38 | WE_IC4 | In IC4 (MANTA) rewriting, control for communication path switch | O | H |
| 39 | EPM | Setting pin for flash rewriting mode (pull-down) | I | |
| 40 | IC4_RST | IC4 forced reset | O | L |
| 41 | IC4_CE | Enable for IC4 communication | O | L |
| 42 | IC4_BUSY | Busy input for IC4 communication | I | H |
| 43 | REQ_IC4 | Communication request from the IC4 | I | H |
| 44 | CE | Setting pin for flash rewriting mode (pull-up) | I | |
| 45 | PSIZE | Panel size distinction | I | |
| 46 | B_SCL | IIC clock output for backup EEPROM | O | H |
| 47 | B_SDA | IIC DATA I/O for backup EEPROM | I/O | H |
| 48 | ADR_PD | PD signal of address junction | I | H |
| 49 | LED_G | Green LED control | O | L |
| 50 | LED_R | Red LED control | O | L |

## ■ M30622FH8PGP (DIGITAL VIDEO ASSY : IC5201)

• PDP UCOM

● **Pin Function (2/2)**

| No. | Pin Name | Function | I/0 | ACTIVE |
|---|---|---|---|---|
| 51 | DRV_OFF | Driving OFF | O | H |
| 52 | RELAY | Power ON control output | O | H |
| 53 | POWER | Power ON control input | I | H |
| 54 | MR_ST_B | MDR connection detection | I | L |
| 55 | OP_DET | Rear case open detection | I | |
| 56 | NC | NC pin | | |
| 57 | PNL_MUTE | Panel mute | I | |
| 58 | DITHER | PC/VIDEO dither switch (panel module exclusive use) | I | |
| 59 | NC | NC pin | | |
| 60 | VCC2 | Power supply = STB 3.3V | – | – |
| 61 | PD_TRG | PD detection | I | L |
| 62 | VSS | GND | – | – |
| 63 | VH_PD | Vh power decrease PD | I | H |
| 64 | YDRV_PD | Y drive PD signal | I | H |
| 65 | YRES_PD | Y drive PD signal | I | H |
| 66 | YDCDC_PD | PD signal of Y drive DC-DC converter | I | H |
| 67 | IC5V_PD | 5V power decrease PD | I | H |
| 68 | XSUS_PD | X drive PD signal | I | H |
| 69 | XDCDC_PD | PD signal of X drive DC-DC converter | I | H |
| 70 | XDRV_PD | X drive PD signal | I | H |
| 71 | NC | NC pin | | |
| 72 | MR_AC | MR power monitor | I | H |
| 73 | AC_DET | AC power monitor at panel side (same signal as CST1) | I | L |
| 74 | DVI_MUTE | Mute of panel link output | O | H |
| 75 | A_MUTE | Audio mute | O | H |
| 76 | A_NG | Audio NG detection | I | L |
| 77 | A_SCL | IIC clock output for audio/others | O | L |
| 78 | A_SDA | IIC data I/O for audio/others | I/O | L |
| 79 | TRUBASS | TRUBASS ON/OFF | O | H |
| 80 | STB_SW | Standby setting of audio amp. | O | L |
| 81 | FOCUS | FOCUS ON/OFF | O | H |
| 82 | SRS | SRS ON/OFF | O | H |
| 83 | DDC_WP | DDCROM write protection | O | H |
| 84 | DVI_DET | DVI cable disconnection detection | I | H |
| 85 | RSTBTMDS | Reset detection of panel link receiver | I | L |
| 86 | L_SYNC | DE omission detection of the panel link | I | L |
| 87 | NC | NC pin | | |
| 88 | NC | NC pin | | |
| 89 | MASK1 | [A/D] Mask display setting | I | |
| 90 | MAX_PLS2 | [A/D] Brightness setting for panel module | I | |
| 91 | MAX_PLS1 | [A/D] Brightness setting for panel module | I | |
| 92 | TEMP | [A/D] AD input for temperature sensor | I | |
| 93 | MODE | [A/D] Operation mode setting | I | |
| 94 | AVSS | GND for A/D input | – | – |
| 95 | MODEL | [A/D] CMX/HD/TV/WX distinction | I | |
| 96 | VREF | Reference voltage for A/D input | – | – |
| 97 | AVCC | Power supply for A/D input = STB3.3V | – | – |
| 98 | NC | NC pin | | |
| 99 | NC | NC pin | | |
| 100 | AMG_MD | Address emergency monitor | I | H |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● **Pin Function (1/10)**

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| A1 | 1 | BAI_6 | A phase signal input of B video (sixth bit) |
| B1 | 2 | BAI_5 | A phase signal input of B video (fifth bit) |
| C1 | 3 | BAI_4 | A phase signal input of B video (fourth bit) |
| D1 | 4 | NC | NC pin |
| E1 | 5 | NC | NC pin |
| F1 | 6 | BAI_3 | A phase signal input of B video (fifth bit) |
| G1 | 7 | BAI_2 | A phase signal input of B video (fourth bit) |
| H1 | 8 | FIELD | FIELD signal input |
| J1 | 9 | XSUSB_12 | X-Drive control signal output |
| K1 | 10 | XSUSB_10 | X-Drive control signal output |
| L1 | 11 | XSUSB_4 | X-Drive control signal output |
| M1 | 12 | XSUSB_0 | X-Drive control signal output |
| N1 | 13 | XSUSA_10 | X-Drive control signal output |
| P1 | 14 | XSUSA_4 | X-Drive control signal output |
| R1 | 15 | XSUSA_2 | X-Drive control signal output |
| T1 | 16 | ADRS_0 | Address control signal output |
| U1 | 17 | AD6TXOUT3M | Address LVDS signal output |
| V1 | 18 | AD6TXCLKOUTM | Address LVDS signal output |
| W1 | 19 | AD6TXOUT2M | Address LVDS signal output |
| Y1 | 20 | AD6TXOUT1M | Address LVDS signal output |
| AA1 | 21 | AD6TXOUT0M | Address LVDS signal output |
| AB1 | 22 | AD7TXOUT3M | Address LVDS signal output |
| AC1 | 23 | AD7TXCLKOUTM | Address LVDS signal output |
| AD1 | 24 | AD7TXOUT2M | Address LVDS signal output |
| AE1 | 25 | AD7TXOUT1M | Address LVDS signal output |
| AF1 | 26 | AD7TXOUT0M | Address LVDS signal output |
| AF2 | 27 | AD7TXOUT0P | Address LVDS signal output |
| AF3 | 28 | VSSLA | GND |
| AF4 | 29 | AD3TXOUT3M | Address LVDS signal output |
| AF5 | 30 | AD3TXCLKOUTM | Address LVDS signal output |
| AF6 | 31 | AD3TXOUT2M | Address LVDS signal output |
| AF7 | 32 | AD3TXOUT1M | Address LVDS signal output |
| AF8 | 33 | AD3TXOUT0M | Address LVDS signal output |
| AF9 | 34 | AD2TXOUT3M | Address LVDS signal output |
| AF10 | 35 | AD2TXCLKOUTM | Address LVDS signal output |
| AF11 | 36 | AD2TXOUT2M | Address LVDS signal output |
| AF12 | 37 | AD2TXOUT1M | Address LVDS signal output |
| AF13 | 38 | AD2TXOUT0M | Address LVDS signal output |
| AF14 | 39 | AD1TXOUT3M | Address LVDS signal output |
| AF15 | 40 | AD1TXCLKOUTM | Address LVDS signal output |
| AF16 | 41 | AD1TXOUT2M | Address LVDS signal output |
| AF17 | 42 | AD1TXOUT1M | Address LVDS signal output |
| AF18 | 43 | AD1TXOUT0M | Address LVDS signal output |
| AF19 | 44 | AD0TXOUT3M | Address LVDS signal output |
| AF20 | 45 | AD0TXCLKOUTM | Address LVDS signal output |
| AF21 | 46 | AD0TXOUT2M | Address LVDS signal output |
| AF22 | 47 | AD0TXOUT1M | Address LVDS signal output |
| AF23 | 48 | AD0TXOUT0M | Address LVDS signal output |
| AF24 | 49 | VSSL15 | GND |
| AF25 | 50 | AD4TXOUT3P | Address LVDS signal output |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (2/10)

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| AF26 | 51 | AD4TXOUT3M | Address LVDS signal output |
| AE26 | 52 | AD4TXCLKOUTM | Address LVDS signal output |
| AD26 | 53 | AD4TXOUT2M | Address LVDS signal output |
| AC26 | 54 | AD4TXOUT1M | Address LVDS signal output |
| AB26 | 55 | AD4TXOUT0M | Address LVDS signal output |
| AA26 | 56 | AD5TXOUT3M | Address LVDS signal output |
| Y26 | 57 | AD5TXCLKOUTM | Address LVDS signal output |
| W26 | 58 | AD5TXOUT2M | Address LVDS signal output |
| V26 | 59 | AD5TXOUT1M | Address LVDS signal output |
| U26 | 60 | AD5TXOUT0M | Address LVDS signal output |
| T26 | 61 | SDIDBI_N | JTAG signal |
| R26 | 62 | SDIJTAG | JTAG signal |
| P26 | 63 | GPIO0_3 | Microcomputer macro general-purpose port |
| N26 | 64 | GPIO0_1 | Microcomputer macro general-purpose port |
| M26 | 65 | YSUSA_4 | Y-Drive control signal output |
| L26 | 66 | YSUSA_10 | Y-Drive control signal output |
| K26 | 67 | YSUSA_14 | Y-Drive control signal output |
| J26 | 68 | YSUSB_4 | Y-Drive control signal output |
| H26 | 69 | YSUSB_6 | Y-Drive control signal output |
| G26 | 70 | YSUSB_10 | Y-Drive control signal output |
| F26 | 71 | YSUSB_14 | Y-Drive control signal output |
| E26 | 72 | NC | NC pin |
| D26 | 73 | NC | NC pin |
| C26 | 74 | SCAN_10 | Scan control signal output |
| B26 | 75 | CSIOTXD | Communication with microcomputer |
| A26 | 76 | CSRD_N | Communication with microcomputer |
| A25 | 77 | CSCS_N0 | Communication with microcomputer |
| A24 | 78 | EXA16 | Flash memory address bus |
| A23 | 79 | EXA15 | Flash memory address bus |
| A22 | 80 | EXA14 | Flash memory address bus |
| A21 | 81 | EXA13 | Flash memory address bus |
| A20 | 82 | EXA12 | Flash memory address bus |
| A19 | 83 | EXA10 | Flash memory address bus |
| A18 | 84 | EXA7 | Flash memory address bus |
| A17 | 85 | EXA1 | Flash memory address bus |
| A16 | 86 | EXDIO_3 | Flash memory data bus |
| A15 | 87 | EXDIO_5 | Flash memory data bus |
| A14 | 88 | EXDIO_11 | Flash memory data bus |
| A13 | 89 | TRNSEND_O | NC pin |
| A12 | 90 | RBI_5 | B phase signal input of R video (fifth bit) |
| A11 | 91 | RBI_0 | B phase signal input of R video (0 bit) |
| A10 | 92 | GBI_8 | B phase signal input of G video (eighth bit) |
| A9 | 93 | GBI_2 | B phase signal input of G video (second bit) |
| A8 | 94 | BBI_6 | B phase signal input of B video (sixth bit) |
| A7 | 95 | BBI_0 | B phase signal input of B video (0 bit) |
| A6 | 96 | VDI | VD signal input |
| A5 | 97 | RAI_5 | A phase signal input of R video (fifth bit) |
| A4 | 98 | DCLKI | CLK input |
| A3 | 99 | GAI_4 | A phase signal input of G video (fourth bit) |
| A2 | 100 | BAI_9 | A phase signal input of B video (ninth bit) |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● **Pin Function (3/10)**

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| B2 | 101 | BAI_8 | A phase signal input of B video (eighth bit) |
| C2 | 102 | BAI_7 | A phase signal input of B video (seventh bit) |
| D2 | 103 | GND | GND |
| E2 | 104 | NC | NC |
| F2 | 105 | NC | NC |
| G2 | 106 | BAI_1 | A phase signal input of B video (first bit) |
| H2 | 107 | XSUSB_15 | X-Drive control signal output |
| J2 | 108 | GND | GND |
| K2 | 109 | XSUSB_9 | X-Drive control signal output |
| L2 | 110 | XSUSB_3 | X-Drive control signal output |
| M2 | 111 | XSUSA_15 | X-Drive control signal output |
| N2 | 112 | XSUSA_9 | X-Drive control signal output |
| P2 | 113 | GND | GND |
| R2 | 114 | XSUSA_1 | X-Drive control signal output |
| T2 | 115 | TEST2 | Test signal input (Not used) |
| U2 | 116 | AD6TXOUT3P | Address LVDS signal output |
| V2 | 117 | AD6TXCLKOUTP | Address LVDS signal output |
| W2 | 118 | AD6TXOUT2P | Address LVDS signal output |
| Y2 | 119 | AD6TXOUT1P | Address LVDS signal output |
| AA2 | 120 | AD6TXOUT0P | Address LVDS signal output |
| AB2 | 121 | AD7TXOUT3P | Address LVDS signal output |
| AC2 | 122 | AD7TXCLKOUTP | Address LVDS signal output |
| AD2 | 123 | AD7TXOUT2P | Address LVDS signal output |
| AE2 | 124 | AD7TXOUT1P | Address LVDS signal output |
| AE3 | 125 | VSSLA | GND |
| AE4 | 126 | AD3TXOUT3P | Address LVDS signal output |
| AE5 | 127 | AD3TXCLKOUTP | Address LVDS signal output |
| AE6 | 128 | AD3TXOUT2P | Address LVDS signal output |
| AE7 | 129 | AD3TXOUT1P | Address LVDS signal output |
| AE8 | 130 | AD3TXOUT0P | Address LVDS signal output |
| AE9 | 131 | AD2TXOUT3P | Address LVDS signal output |
| AE10 | 132 | AD2TXCLKOUTP | Address LVDS signal output |
| AE11 | 133 | AD2TXOUT2P | Address LVDS signal output |
| AE12 | 134 | AD2TXOUT1P | Address LVDS signal output |
| AE13 | 135 | AD2TXOUT0P | Address LVDS signal output |
| AE14 | 136 | AD1TXOUT3P | Address LVDS signal output |
| AE15 | 137 | AD1TXCLKOUTP | Address LVDS signal output |
| AE16 | 138 | AD1TXOUT2P | Address LVDS signal output |
| AE17 | 139 | AD1TXOUT1P | Address LVDS signal output |
| AE18 | 140 | AD1TXOUT0P | Address LVDS signal output |
| AE19 | 141 | AD0TXOUT3P | Address LVDS signal output |
| AE20 | 142 | AD0TXCLKOUTP | Address LVDS signal output |
| AE21 | 143 | AD0TXOUT2P | Address LVDS signal output |
| AE22 | 144 | AD0TXOUT1P | Address LVDS signal output |
| AE23 | 145 | AD0TXOUT0P | Address LVDS signal output |
| AE24 | 146 | VSSL15 | GND |
| AE25 | 147 | AD4TXCLKOUTP | Address LVDS signal output |
| AD25 | 148 | AD4TXOUT2P | Address LVDS signal output |
| AC25 | 149 | AD4TXOUT1P | Address LVDS signal output |
| AB25 | 150 | AD4TXOUT0P | Address LVDS signal output |

## PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● **Pin Function (4/10)**

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| AA25 | 151 | AD5TXOUT3P | Address LVDS signal output |
| Y25 | 152 | AD5TXCLKOUTP | Address LVDS signal output |
| W25 | 153 | AD5TXOUT2P | Address LVDS signal output |
| V25 | 154 | AD5TXOUT1P | Address LVDS signal output |
| U25 | 155 | AD5TXOUT0P | Address LVDS signal output |
| T25 | 156 | SDITRST_N | JTAG signal |
| R25 | 157 | RESETX | Reset input |
| P25 | 158 | GND | GND |
| N25 | 159 | GPIO0_0 | Microcomputer macro general-purpose port |
| M25 | 160 | YSUSA_5 | Y-Drive control signal output |
| L25 | 161 | YSUSA_11 | Y-Drive control signal output |
| K25 | 162 | YSUSA_15 | Y-Drive control signal output |
| J25 | 163 | GND | GND |
| H25 | 164 | YSUSB_7 | Y-Drive control signal output |
| G25 | 165 | YSUSB_11 | Y-Drive control signal output |
| F25 | 166 | NC | NC pin |
| E25 | 167 | NC | NC pin |
| D25 | 168 | GND | GND |
| C25 | 169 | SCAN_11 | Scan control signal output |
| B25 | 170 | CSIORXD | Communication with UCOM |
| B24 | 171 | CSIOSCKI | Communication with UCOM |
| B23 | 172 | UARTTXD | Communication with UCOM |
| B22 | 173 | UARTRXD | Communication with UCOM |
| B21 | 174 | CSWR_N0 | Communication with UCOM |
| B20 | 175 | GND | GND |
| B19 | 176 | EXA9 | Flash memory address bus |
| B18 | 177 | EXA6 | Flash memory address bus |
| B17 | 178 | EXA0 | Flash memory address bus |
| B16 | 179 | GND | GND |
| B15 | 180 | EXDIO_6 | Flash memory data bus |
| B14 | 181 | EXDIO_12 | Flash memory data bus |
| B13 | 182 | RBI_9 | B phase signal input of R video (ninth bit) |
| B12 | 183 | RBI_4 | B phase signal input of R video (fourth bit) |
| B11 | 184 | GND | GND |
| B10 | 185 | GBI_7 | B phase signal input of G video (seventh bit) |
| B9 | 186 | GBI_1 | B phase signal input of G video (first bit) |
| B8 | 187 | BBI_5 | B phase signal input of B video (fifth bit) |
| B7 | 188 | GND | GND |
| B6 | 189 | HDI | HD signal input |
| B5 | 190 | RAI_4 | A phase signal input of R video (fourth bit) |
| B4 | 191 | GAI_9 | A phase signal input of G video (ninth bit) |
| B3 | 192 | GAI_3 | A phase signal input of G video (third bit) |
| C3 | 193 | GAI_2 | A phase signal input of G video (second bit) |
| D3 | 194 | VDDD33 | 3.3V power supply |
| E3 | 195 | GAI_1 | A phase signal input of G video (first bit) |
| F3 | 196 | GAI_0 | A phase signal input of G video (0 bit) |
| G3 | 197 | NC | NC pin |
| H3 | 198 | XSUSB_14 | X-Drive control signal output |
| J3 | 199 | VDDIO | 3.3V power supply |
| K3 | 200 | XSUSB_8 | X-Drive control signal output |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (5/10)

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| L3 | 201 | XSUSB_2 | X-Drive control signal output |
| M3 | 202 | XSUSA_14 | X-Drive control signal output |
| N3 | 203 | XSUSA_8 | X-Drive control signal output |
| P3 | 204 | VDDIO | 3.3V power supply |
| R3 | 205 | XSUSA_0 | X-Drive control signal output |
| T3 | 206 | TEST1 | Test signal input (Not used) |
| U3 | 207 | VSSLA | GND |
| V3 | 208 | VSSLA | GND |
| W3 | 209 | VSSLA | GND |
| Y3 | 210 | VSSLA | GND |
| AA3 | 211 | VSSLA | GND |
| AB3 | 212 | VSSLA | GND |
| AC3 | 213 | VSSLA | GND |
| AD3 | 214 | VSSLA | GND |
| AD4 | 215 | VSSLA | GND |
| AD5 | 216 | VSSLA | GND |
| AD6 | 217 | VSSLA | GND |
| AD7 | 218 | VSSLA | GND |
| AD8 | 219 | VSSLA | GND |
| AD9 | 220 | VSSLA | GND |
| AD10 | 221 | VSSLA | GND |
| AD11 | 222 | VSSLA | GND |
| AD12 | 223 | VSSLA | GND |
| AD13 | 224 | VSSLA | GND |
| AD14 | 225 | VSSLA | GND |
| AD15 | 226 | VSSLA | GND |
| AD16 | 227 | VSSLA | GND |
| AD17 | 228 | VSSLA | GND |
| AD18 | 229 | VSSLA | GND |
| AD19 | 230 | VSSLA | GND |
| AD20 | 231 | VSSLA | GND |
| AD21 | 232 | VSSLA | GND |
| AD22 | 233 | VSSLA | GND |
| AD23 | 234 | VSSLA | GND |
| AD24 | 235 | VSSLA | GND |
| AC24 | 236 | VSSLA | GND |
| AB24 | 237 | VSSLA | GND |
| AA24 | 238 | VSSLA | GND |
| Y24 | 239 | VSSLA | GND |
| W24 | 240 | VSSLA | GND |
| V24 | 241 | VSSLA | GND |
| U24 | 242 | VSSLA | GND |
| T24 | 243 | SDITDO | JTAG signal |
| R24 | 244 | GPIO0_7 | Microcomputer macro general-purpose port |
| P24 | 245 | VDDIO | 3.3V power supply |
| N24 | 246 | YSUSA_0 | Y-Drive control signal output |
| M24 | 247 | YSUSA_6 | Y-Drive control signal output |
| L24 | 248 | YSUSA_12 | Y-Drive control signal output |
| K24 | 249 | YSUSB_0 | Y-Drive control signal output |
| J24 | 250 | VDDD33 | 3.3V power supply |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (6/10)

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| H24 | 251 | YSUSB_8 | Y-Drive control signal output |
| G24 | 252 | NC | NC pin |
| F24 | 253 | YSUSB_15 | Y-Drive control signal output |
| E24 | 254 | SCAN_3 | Scan control signal output |
| D24 | 255 | VDDD33 | 3.3V power supply |
| C24 | 256 | SCAN_12 | Scan control signal output |
| C23 | 257 | SCAN_13 | Scan control signal output |
| C22 | 258 | SCAN_14 | Scan control signal output |
| C21 | 259 | SCAN_15 | Scan control signal output |
| C20 | 260 | VDDIO | 3.3V power supply |
| C19 | 261 | EXA8 | Flash memory address bus |
| C18 | 262 | EXA5 | Flash memory address bus |
| C17 | 263 | CLKD | CLK input (60MHz) |
| C16 | 264 | VDDIO | 3.3V power supply |
| C15 | 265 | EXDIO_7 | Flash memory data bus |
| C14 | 266 | EXDIO_13 | Flash memory data bus |
| C13 | 267 | RBI_8 | B phase signal input of R video (eighth bit) |
| C12 | 268 | RBI_3 | B phase signal input of R video (third bit) |
| C11 | 269 | VDDIO | 3.3V power supply |
| C10 | 270 | GBI_6 | B phase signal input of G video (sixth bit) |
| C9 | 271 | GBI_0 | B phase signal input of G video (0 bit) |
| C8 | 272 | BBI_4 | B phase signal input of B video (fourth bit) |
| C7 | 273 | VDDIO | 3.3V power supply |
| C6 | 274 | RAI_9 | A phase signal input of R video (ninth bit) |
| C5 | 275 | RAI_3 | A phase signal input of R video (third bit) |
| C4 | 276 | GAI_8 | A phase signal input of G video (eighth bit) |
| D4 | 277 | GAI_7 | A phase signal input of G video (seventh bit) |
| E4 | 278 | GAI_6 | A phase signal input of G video (sixth bit) |
| F4 | 279 | GAI_5 | A phase signal input of G video (fifth bit) |
| G4 | 280 | VCMP | GND |
| H4 | 281 | XSUSB_13 | X-Drive control signal output |
| J4 | 282 | XSUSB_11 | X-Drive control signal output |
| K4 | 283 | XSUSB_7 | X-Drive control signal output |
| L4 | 284 | XSUSB_1 | X-Drive control signal output |
| M4 | 285 | XSUSA_13 | X-Drive control signal output |
| N4 | 286 | XSUSA_7 | X-Drive control signal output |
| P4 | 287 | XSUSA_3 | X-Drive control signal output |
| R4 | 288 | ADRS_3 | Address control signal output |
| T4 | 289 | TESTAN | Test signal input (Not used) |
| U4 | 290 | VDDLA | 3.3V power supply |
| V4 | 291 | VDDLA | 3.3V power supply |
| W4 | 292 | VDDLA | 3.3V power supply |
| Y4 | 293 | VDDLA | 3.3V power supply |
| AA4 | 294 | VDDLA | 3.3V power supply |
| AB4 | 295 | VDDLA | 3.3V power supply |
| AC4 | 296 | VDDLA | 3.3V power supply |
| AC5 | 297 | VDDLA | 3.3V power supply |
| AC6 | 298 | VDDLA | 3.3V power supply |
| AC7 | 299 | VDDLA | 3.3V power supply |
| AC8 | 300 | VDDLA | 3.3V power supply |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (7/10)

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| AC8 | 300 | VDDLA | 3.3V power supply |
| AC9 | 301 | VDDLA | 3.3V power supply |
| AC10 | 302 | VDDLA | 3.3V power supply |
| AC11 | 303 | VDDLA | 3.3V power supply |
| AC12 | 304 | VDDLA | 3.3V power supply |
| AC13 | 305 | VDDLA | 3.3V power supply |
| AC14 | 306 | VDDBG | 3.3V power supply |
| AC15 | 307 | VDDLA | 3.3V power supply |
| AC16 | 308 | VDDLA | 3.3V power supply |
| AC17 | 309 | VDDLA | 3.3V power supply |
| AC18 | 310 | VDDLA | 3.3V power supply |
| AC19 | 311 | VDDLA | 3.3V power supply |
| AC20 | 312 | VDDLA | 3.3V power supply |
| AC21 | 313 | VDDLA | 3.3V power supply |
| AC22 | 314 | VDDLA | 3.3V power supply |
| AC23 | 315 | VDDLA | 3.3V power supply |
| AB23 | 316 | VDDLA | 3.3V power supplyv |
| AA23 | 317 | VDDLA | 3.3V power supply |
| Y23 | 318 | VDDLA | 3.3V power supply |
| W23 | 319 | VDDLA | 3.3V power supply |
| V23 | 320 | VDDLA | 3.3V power supply |
| U23 | 321 | VDDLA | 3.3V power supply |
| T23 | 322 | SDITDI | JTAG signal |
| R23 | 323 | GPIO0_6 | Microcomputer macro general-purpose port |
| P23 | 324 | GPIO0_2 | Microcomputer macro general-purpose port |
| N23 | 325 | YSUSA_1 | Y-Drive control signal output |
| M23 | 326 | YSUSA_7 | Y-Drive control signal output |
| L23 | 327 | YSUSA_13 | Y-Drive control signal output |
| K23 | 328 | YSUSB_1 | Y-Drive control signal output |
| J23 | 329 | YSUSB_5 | Y-Drive control signal output |
| H23 | 330 | YSUSB_9 | Y-Drive control signal output |
| G23 | 331 | VCMP | GND |
| F23 | 332 | SCAN_0 | Scan control signal output |
| E23 | 333 | SCAN_4 | Scan control signal output |
| D23 | 334 | SCAN_7 | Scan control signal output |
| D22 | 335 | SCAN_8 | Scan control signal output |
| D21 | 336 | SCAN_9 | Scan control signal output |
| D20 | 337 | EXA11 | Flash memory address bus |
| D19 | 338 | EXA19 | Flash memory address bus |
| D18 | 339 | EXA4 | Flash memory address bus |
| D17 | 340 | EXDIO_0 | Flash memory data bus |
| D16 | 341 | EXDIO_4 | Flash memory data bus |
| D15 | 342 | EXDIO_8 | Flash memory data bus |
| D14 | 343 | EXDIO_14 | Flash memory data bus |
| D13 | 344 | RBI_7 | B phase signal input of R video (seventh bit) |
| D12 | 345 | RBI_2 | B phase signal input of R video (second bit) |
| D11 | 346 | GBI_9 | B phase signal input of G video (ninth bit) |
| D10 | 347 | GBI_5 | B phase signal input of G video (fifth bit) |
| D9 | 348 | BBI_9 | B phase signal input of B video (ninth bit) |
| D8 | 349 | BBI_3 | B phase signal input of B video (tenth bit) |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (8/10)

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| D7 | 350 | DEI | DE signal input |
| D6 | 351 | RAI_8 | A phase signal input of R video (eighth bit) |
| D5 | 352 | RAI_2 | A phase signal input of R video (second bit) |
| E5 | 353 | RAI_1 | A phase signal input of R video (first bit) |
| F5 | 354 | RAI_0 | A phase signal input of R video (0 bit) |
| G5 | 355 | BAI_0 | A phase signal input of B video (0 bit) |
| H5 | 356 | VSS15 | GND |
| J5 | 357 | VDDHR | 3.3V power supply |
| K5 | 358 | XSUSB_6 | X-Drive control signal output |
| L5 | 359 | VSSD15 | GND |
| M5 | 360 | XSUSA_12 | X-Drive control signal output |
| N5 | 361 | XSUSA_6 | X-Drive control signal output |
| P5 | 362 | VSS15 | GND |
| R5 | 363 | ADRS_2 | Address control signal output |
| T5 | 364 | TESTBN | Test signal input (Not used) |
| U5 | 365 | VSSL15 | GND |
| V5 | 366 | VSSLA | GND |
| W5 | 367 | VSSLA | GND |
| Y5 | 368 | VSSL15 | GND |
| AA5 | 369 | VDDLP | 3.3V power supply |
| AB5 | 370 | VSSL15 | GND |
| AB6 | 371 | VSSLA | GND |
| AB7 | 372 | VSSLA | GND |
| AB8 | 373 | VSSL15 | GND |
| AB9 | 374 | VSSLA | GND |
| AB10 | 375 | VSSLA | GND |
| AB11 | 376 | VSSL15 | GND |
| AB12 | 377 | VSSLA | GND |
| AB13 | 378 | VSSLA | GND |
| AB14 | 379 | REFRIN | Reference current generation |
| AB15 | 380 | VSSBG | GND |
| AB16 | 381 | VSSL15 | GND |
| AB17 | 382 | VSSLA | GND |
| AB18 | 383 | VSSLA | GND |
| AB19 | 384 | VSSL15 | GND |
| AB20 | 385 | VSSLA | GND |
| AB21 | 386 | VSSLA | GND |
| AB22 | 387 | VSSLA | GND |
| AA22 | 388 | VDDLA | 3.3V power supply |
| Y22 | 389 | VSSL15 | GND |
| W22 | 390 | VSSLA | GND |
| V22 | 391 | VSSLA | GND |
| U22 | 392 | VSSL15 | GND |
| T22 | 393 | SDITMS | JTAG signal |
| R22 | 394 | GPIO0_5 | Microcomputer macro general-purpose port |
| P22 | 395 | VSS15 | GND |
| N22 | 396 | YSUSA_2 | Y-Drive control signal output |
| M22 | 397 | YSUSA_8 | Y-Drive control signal output |
| L22 | 398 | VSSD15 | GND |
| K22 | 399 | YSUSB_2 | Y-Drive control signal output |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

### ● Pin Function (9/10)

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| J22 | 400 | VDDHL | 3.3V power supply |
| H22 | 401 | VSSD15 | GND |
| G22 | 402 | YSUSB_12 | Y-Drive control signal output |
| F22 | 403 | SCAN_1 | Scan control signal output |
| E22 | 404 | SCAN_5 | Scan control signal output |
| E21 | 405 | SCAN_6 | Scan control signal output |
| E20 | 406 | VSS15 | GND |
| E19 | 407 | EXA18 | Flash memory address bus |
| E18 | 408 | EXA3 | Flash memory address bus |
| E17 | 409 | EXDIO_1 | Flash memory data bus |
| E16 | 410 | VSS15 | GND |
| E15 | 411 | EXDIO_9 | Flash memory data bus |
| E14 | 412 | EXDIO_15 | Flash memory data bus |
| E13 | 413 | RBI_6 | B phase signal input of R video (sixth bit) |
| E12 | 414 | CLKS | CLK input (85MHz) |
| E11 | 415 | VSS15 | GND |
| E10 | 416 | GBI_4 | B phase signal input of G video (fourth bit) |
| E8 | 418 | BBI_2 | B phase signal input of B video (second bit) |
| E9 | 417 | BBI_8 | B phase signal input of B video (eighth bit) |
| E7 | 419 | VSS15 | GND |
| E6 | 420 | RAI_7 | A phase signal input of R video (seventh bit) |
| F6 | 421 | RAI_6 | A phase signal input of R video (sixth bit) |
| G6 | 422 | APL_DT | APL value trigger input |
| H6 | 423 | VDD15 | 1.5V power supply |
| J6 | 424 | VBB | VBB power monitor in the DRAM |
| K6 | 425 | XSUSB_5 | X-Drive control signal output |
| L6 | 426 | VDDD15 | 1.5V power supply |
| M6 | 427 | XSUSA_11 | X-Drive control signal output |
| N6 | 428 | XSUSA_5 | X-Drive control signal output |
| P6 | 429 | VDD15 | 1.5V power supply |
| R6 | 430 | ADRS_1 | Address control signal output |
| T6 | 431 | TESTCN | Test signal input (Not used) |
| U6 | 432 | VDDL15 | 1.5V power supply |
| V6 | 433 | VDDLA | 3.3V power supply |
| W6 | 434 | VDDLA | 3.3V power supply |
| Y6 | 435 | VDDL15 | 1.5V power supply |
| AA6 | 436 | VDDLA | 3.3V power supply |
| AA7 | 437 | VDDLA | 3.3V power supply |
| AA8 | 438 | VDDL15 | 1.5V power supply |
| AA9 | 439 | VDDLA | 3.3V power supply |
| AA10 | 440 | VDDLA | 3.3V power supply |
| AA11 | 441 | VDDL15 | 1.5V power supply |
| AA12 | 442 | VDDLA | 3.3V power supply |
| AA13 | 443 | VDDLA | 3.3V power supply |
| AA14 | 444 | VDDLA | 3.3V power supply |
| AA15 | 445 | VDDLA | 3.3V power supply |
| AA16 | 446 | VDDL15 | 1.5V power supply |
| AA17 | 447 | VDDLA | 3.3V power supply |
| AA18 | 448 | VDDLA | 3.3V power supply |
| AA19 | 449 | VDDL15 | 1.5V power supply |

## ■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

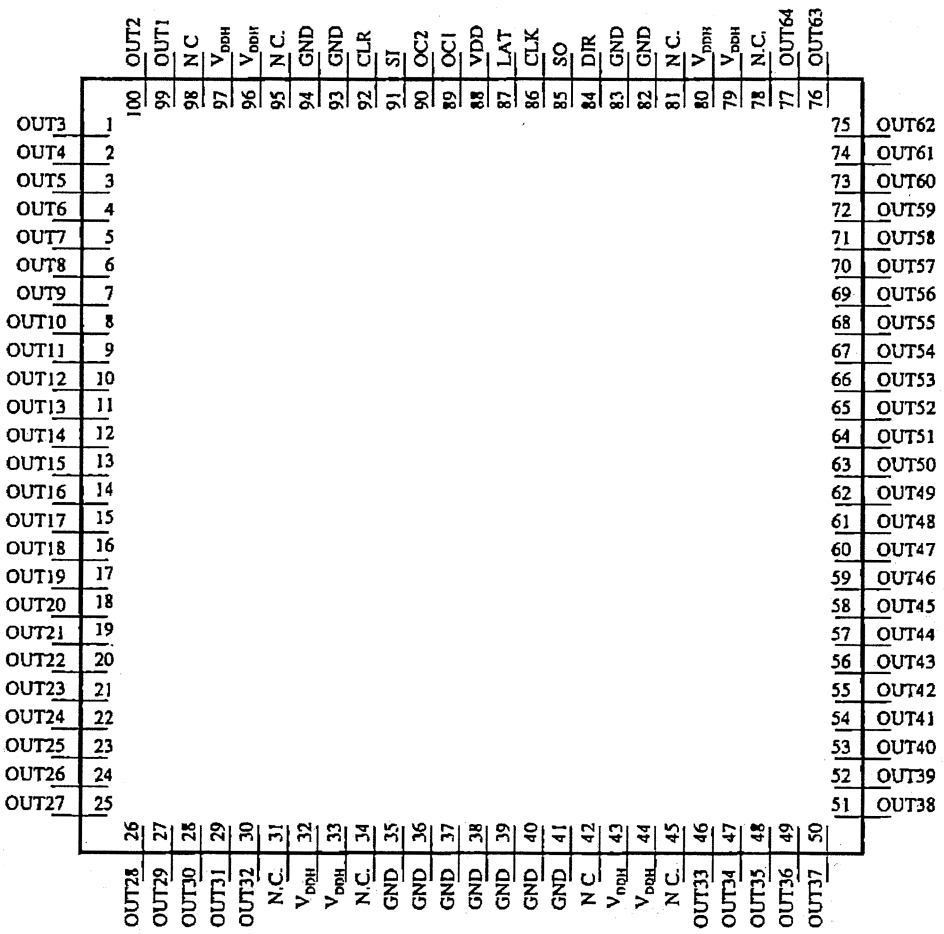
### ● Pin Function (10/10)

| Ball No. | No. | Pin Name | Function |
|---|---|---|---|
| AA20 | 450 | VDDLA | 3.3V power supply |
| AA21 | 451 | VDDLA | 3.3V power supply |
| Y21 | 452 | VDDL15 | 1.5V power supply |
| W21 | 453 | VDDLA | 3.3V power supply |
| V21 | 454 | VDDLA | 3.3V power supply |
| U21 | 455 | VDDL15 | 1.5V power supply |
| T21 | 456 | SDITCK | JTAG signal |
| R21 | 457 | GPIO0_4 | Microcomputer macro general-purpose port |
| P21 | 458 | VDD15 | 1.5V power supply |
| N21 | 459 | YSUSA_3 | Y-Drive control signal output |
| M21 | 460 | YSUSA_9 | Y-Drive control signal output |
| L21 | 461 | VDDD15 | 1.5V power supply |
| K21 | 462 | YSUSB_3 | Y-Drive control signal output |
| J21 | 463 | VBB | VBB power monitor in the DRAM |
| H21 | 464 | VDDD15 | 1.5V power supply |
| G21 | 465 | YSUSB_13 | Y-Drive control signal output |
| F21 | 466 | SCAN_2 | Scan control signal output |
| F20 | 467 | VDD15 | 1.5V power supply |
| F19 | 468 | EXA17 | Flash memory address bus |
| F18 | 469 | EXA2 | Flash memory address bus |
| F17 | 470 | EXDIO_2 | Flash memory data bus |
| F16 | 471 | VDD15 | 1.5V power supply |
| F15 | 472 | EXDIO_10 | Flash memory data bus |
| F14 | 473 | TRNSEND_I | NC pin |
| F13 | 474 | VDD15 | 1.5V power supply |
| F12 | 475 | RBI_1 | B phase signal input of R video (first bit) |
| F11 | 476 | VDD15 | 1.5V power supply |
| F10 | 477 | GBI_3 | B phase signal input of G video (third bit) |
| F9 | 478 | BBI_7 | B phase signal input of B video (seventh bit) |
| F8 | 479 | BBI_1 | B phase signal input of B video (first bit) |
| F7 | 480 | VDD15 | 1.5V power supply |

## ■ AN16021A-K (50 SCAN A ASSY : IC3001 - IC3006)
## (50 SCAN B ASSY : IC3201 - IC3206)

• **Mod Ucom**

● **Pin Arrangement (Top view)**



● Pin Function (1/2)

| Pin No. | Pin Name | Type | Discription |
|---|---|---|---|
| 1 | OUT3 | Output | High-voltage push-pull output pin |
| 2 | OUT4 | | |
| 3 | OUT5 | | |
| 4 | OUT6 | | |
| 5 | OUT7 | | |
| 6 | OUT8 | | |
| 7 | OUT9 | | |
| 8 | OUT10 | | |
| 9 | OUT11 | | |
| 10 | OUT12 | | |
| 11 | OUT13 | | |
| 12 | OUT14 | | |
| 13 | OUT15 | | |
| 14 | OUT16 | | |
| 15 | OUT17 | | |
| 16 | OUT18 | | |
| 17 | OUT19 | | |
| 18 | OUT20 | | |
| 19 | OUT21 | | |
| 20 | OUT22 | | |
| 21 | OUT23 | | |
| 22 | OUT24 | | |
| 23 | OUT25 | | |
| 24 | OUT26 | | |
| 25 | OUT27 | | |
| 26 | OUT28 | | |
| 27 | OUT29 | | |
| 28 | OUT30 | | |
| 29 | OUT31 | | |
| 30 | OUT32 | | |
| 31 | NC | - | Not connected |
| 32 | VDDH | Supply | High-voltage circuit supply pin |
| 33 | VDDH | Supply | High-voltage circuit supply pin |
| 34 | NC | - | Not connected |
| 35 | GND | Ground | GND pin |
| 36 | GND | | |
| 37 | GND | | |
| 38 | GND | | |
| 39 | GND | | |
| 40 | GND | | |
| 41 | GND | | |
| 42 | NC | - | Not connected |
| 43 | VDDH | Supply | High-voltage circuit supply pin |
| 44 | VDDH | Supply | High-voltage circuit supply pin |
| 45 | NC | - | Not connected |
| 46 | OUT33 | Output | High-voltage push-pull output pin |
| 47 | OUT34 | | |
| 48 | OUT35 | | |
| 49 | OUT36 | | |
| 50 | OUT37 | | |
| 51 | OUT38 | | |
| 52 | OUT39 | | |
| 53 | OUT40 | | |
| 54 | OUT41 | | |
| 55 | OUT42 | | |
| 56 | OUT43 | | |
| 57 | OUT44 | | |
| 58 | OUT45 | | |

## ● Pin Function (2/2)

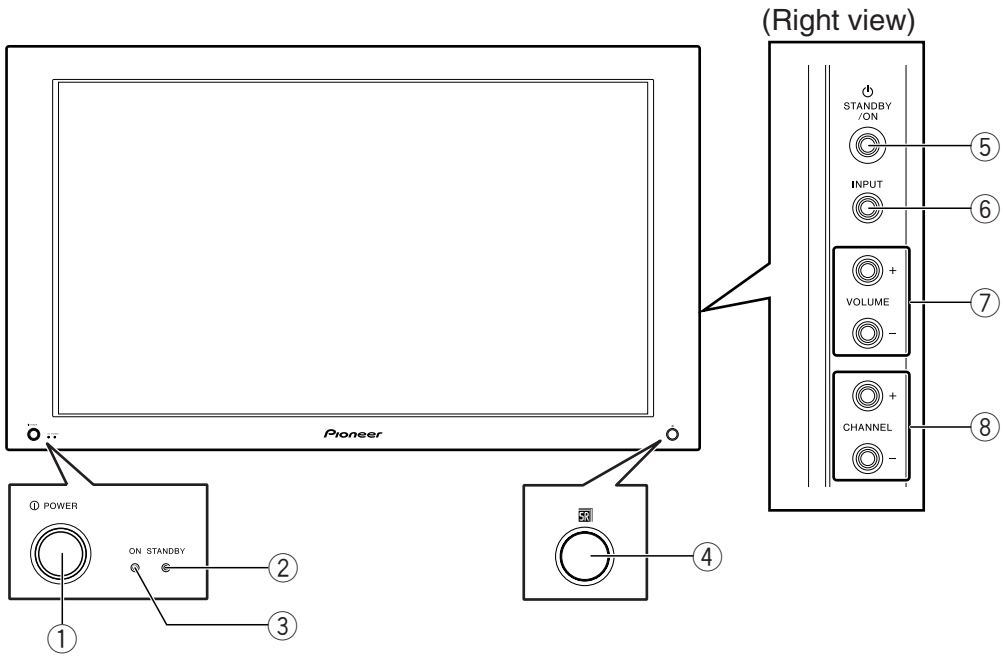
| Pin No. | Pin Name | Type | Discription |
|---|---|---|---|
| 59 | OUT46 | Output | High-voltage push-pull output pin |
| 60 | OUT47 | | |
| 61 | OUT48 | | |
| 62 | OUT49 | | |
| 63 | OUT50 | | |
| 64 | OUT51 | | |
| 65 | OUT52 | | |
| 66 | OUT53 | | |
| 67 | OUT54 | | |
| 68 | OUT55 | | |
| 69 | OUT56 | | |
| 70 | OUT57 | | |
| 71 | OUT58 | | |
| 72 | OUT59 | | |
| 73 | OUT60 | | |
| 74 | OUT61 | | |
| 75 | OUT62 | | |
| 76 | OUT63 | | |
| 77 | OUT64 | | |
| 78 | NC | - | Not connected |
| 79 | DDDH | Supply | High-voltage circuit supply pin |
| 80 | DDDH | Supply | High-voltage circuit supply pin |
| 81 | NC | - | Not connected |
| 82 | GND | Ground | GND pin |
| 83 | GND | Ground | GND pin |
| 84 | DIR | Input | Setup pin of sift register sift direction<br>L: Shift into reverse (SO → SI)<br>H: Shift forward (SI → SO) |
| 85 | SO | Input | Serial data input/output pin |
| 86 | CLK | Input | Serial clock input pin<br>Fetch SI or SO data to sift register by CLK rise edge |
| 87 | LAT | Input | LAT data input pin<br>L: Transfer shft register data to output latch<br>H: Hold data to output latch |
| 88 | VDD | Supply | Logic supply pin |
| 89 | OC1 | Input | Output control pin<br>Control output according to the right truth value table |
| 90 | OC2 | | |
| 91 | SI | SI | Input/OutputSerial data input/output pin |
| 92 | CLR | | All output reset pin<br>CLR pin: L → Normal operation<br>CLR pin: H → All output High |
| 93 | GND | Ground | GND pin |
| 94 | GND | Ground | GND pin |
| 95 | NC | - | Not connected |
| 96 | VDDH | Supply | High-voltage circuit supply pin |
| 97 | VDDH | Supply | High-voltage circuit supply pin |
| 98 | NC | - | Not connected |
| 99 | OUT1 | Output | High-voltage push-pull output pin |
| 100 | OUT2 | Output | High-voltage push-pull output pin |

| OC1 | OC2 | OUT |
|---|---|---|
| L | L | ALL Hi-Z |
| L | H | DATA |
| H | L | ALL L |
| H | H | ALL H |

# 8. PANEL FACILITIES

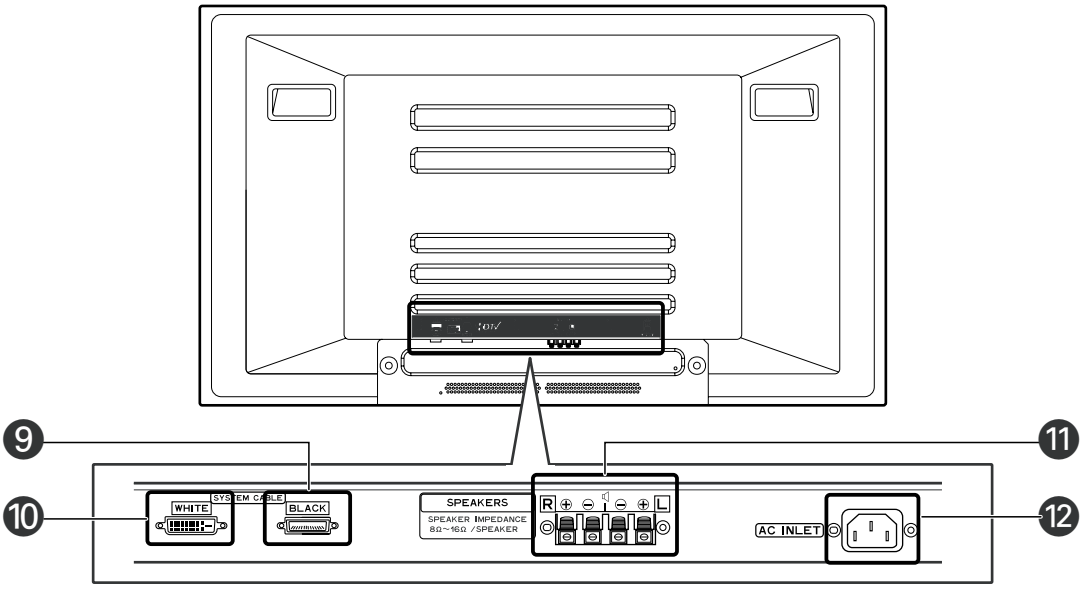
## ■ PLASMA DISPLAY

• Front view




① POWER button
② STANDBY indicator
③ POWER ON indicator
④ Remote control sensor
⑤ STANDBY/ON button
⑥ INPUT button
⑦ VOLUME +/– buttons
⑧ CHANNEL +/– buttons

• Rear view




The terminals are facing down.

❾ SYSTEM CABLE terminal (BLACK)
❿ SYSTEM CABLE terminal (WHITE)
⓫ SPEAKER (right/left) terminals
⓬ AC INLET terminal